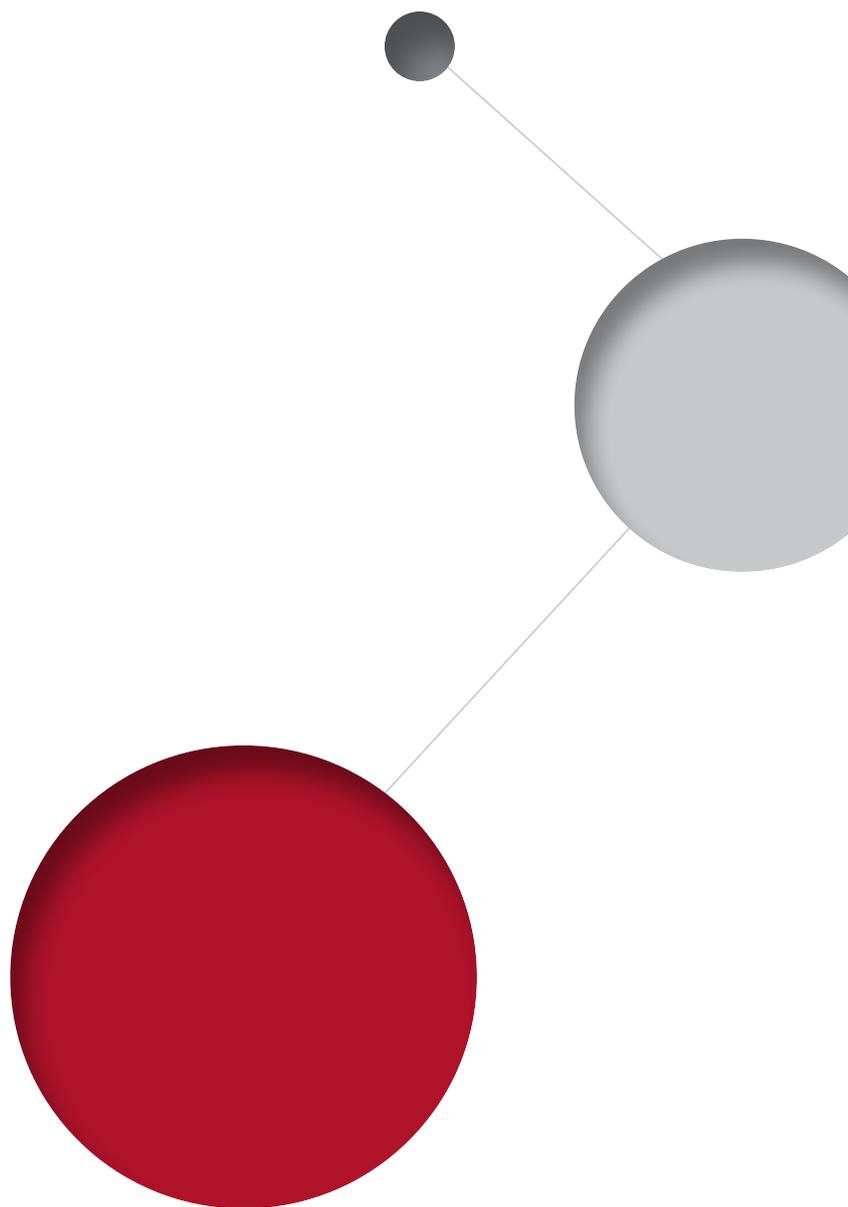


ANNUAL REPORT 2018





The European Society
of Cardiology

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Who we are

The European Society of Cardiology (ESC) is a volunteer-led, not-for-profit, medical society.

Our members and decision-makers are healthcare professionals. They give their time and expertise freely, while continuing their daily, high-paced clinical and/or research work. ESC volunteers are world renowned experts.

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

We identify cardiovascular trends, address treatment inequality and share best practices to improve the standard of care for patients.

We're a source of high quality, evidence-based science that pushes the boundaries of cardiovascular medicine. Our members and their patients are at the heart of everything we do.

We adhere to a Code of Conduct to ensure objectivity, transparency and integrity that was developed in collaboration with members of the Alliance for Biomedical Research in Europe.

**CVD is the world's
number 1 killer**

Source: World Health Organisation

**Globally CVD claims 17.5
million lives each year -
that's 31% of all deaths**

Source: World Health Organisation

**11 million new cases of
CVD in 47 ESC member
countries**

Source: ESC Atlas of Cardiology

**83.5 million people living
with CVD in ESC member
countries**

Source: ESC Atlas of Cardiology

A unique organisation

Unlike other medical societies, the ESC covers the full spectrum of cardiovascular diseases. Our activities in these areas are driven by leaders in their fields, through our subspecialty communities; 6 Associations; 7 Councils and 15 Working Groups.



ACCA
Acute Cardiovascular
Care Association



EACVI
European Association of
Cardiovascular Imaging



EAPC
European Association
of Preventive Cardiology



ESC
Councils



EAPCI
European Association of
Percutaneous Cardiovascular
Interventions



EHRA
European Heart
Rhythm Association



HFA
Heart Failure
Association

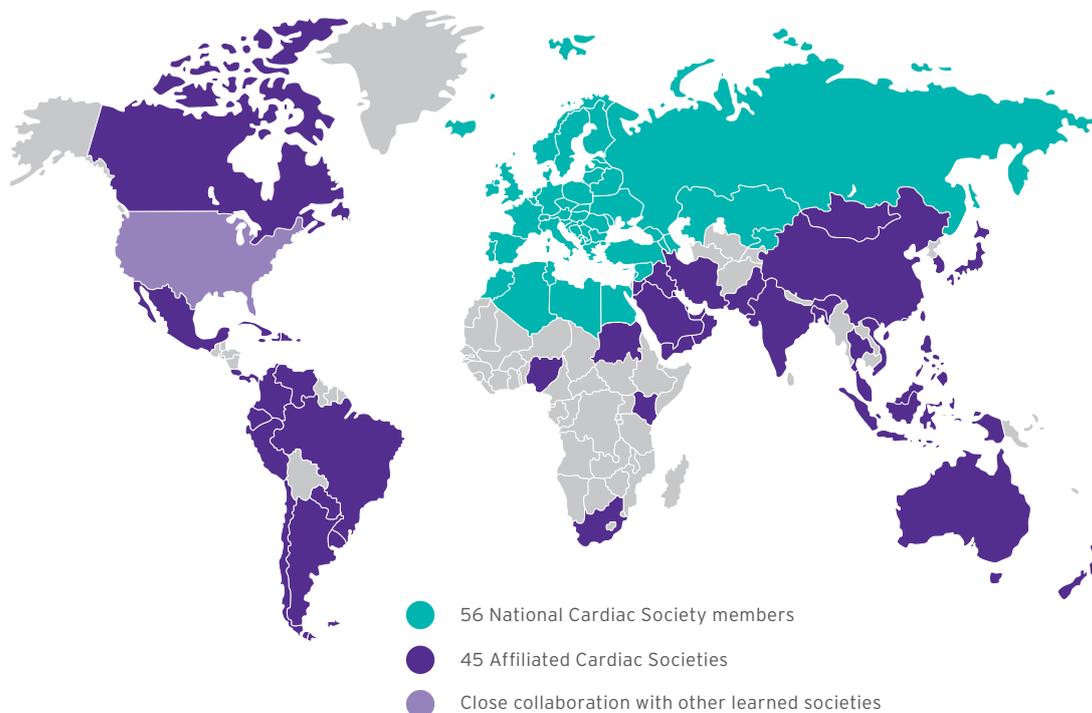


ESC
Working Groups

Our diversity is our strength

Despite our name, the ESC is a global society. The ESC counts 56 Member National Cardiac Societies from within Europe and the Mediterranean basin that are the backbone of our activities. These societies actively contribute to and disseminate the science and tools produced by the ESC.

We are also proud to work with and learn from our 45 Affiliated Cardiac Societies and global partners, with whom we share the same mission.



President's Introduction

How can a volunteer-run organisation like the European Society of Cardiology (ESC) achieve so much each and every year? For me, the answer boils down to passion and commitment. The 2,000 healthcare professionals who drive ESC activities have both qualities in abundance. In these few paragraphs, I'd like to highlight a few of the key achievements during the 12 months ending 31 March 2018 that have allowed us to take significant steps forward across all five pillars of our strategic plan.



Congress

In 2017, we faced an unsettling situation. A terrorist attack in Barcelona tragically claimed 14 lives just days before our annual Congress was set to begin there. Some people questioned whether we should cancel the event. But the international cardiology community overwhelmingly supported proceeding as planned and stood together in solidarity with the city of Barcelona and the ESC.

As such, we are especially proud that this particular Congress with its 31,000-plus attendees had such a significant impact on cardiovascular medicine. The science presented in Barcelona was outstanding, with the release of major studies, including CANTOS, the CASTLE-AF trial, COMPASS and the HPS3/TIMI55-REVEAL trial, among others. There was also unprecedented online participation, significantly enhancing the worldwide impact of the gathering. More than 350,000 people watched and downloaded Congress content through live streaming, ESC TV summaries and online resources. And there was also record engagement on ESC social media.

Education

The ESC provides a needs-driven education programme which went from strength to strength last year. However, I'd like to highlight the efforts undertaken in collaboration with the Alliance for Biomedical Research in Europe, to protect independent, continuing medical education (CME). An ESC paper published in the European Heart Journal gave our initial response to industry's recent efforts to bypass learned societies and provide direct 'CME' to physicians. In doing so, industry is moving away from its effective collaboration with independent education providers. I cannot overstate the importance of maintaining truly independent CME that best serves the patient.

Research

A major milestone for the ESC in November 2017 was the first publication of statistics from the ESC Atlas of Cardiology. The paper underlines major healthcare gaps and inequalities in cardiovascular health service across Europe. This is just the beginning of a critical project for the ESC. We are providing budget owners and decision makers -- at European and national levels -- with robust evidence on the most cost-effective ways to prevent and treat heart disease.

Advocacy

Rules and regulations are typically produced by policymakers who are removed from the realities facing cardiac patients and physicians. The ESC works to bridge that gap. Of particular note last year was our active engagement alongside EU regulators to ensure a smooth implementation of the new medical device regulation approved in Spring 2017. In March 2018, we organised an unprecedented meeting uniting more than twenty European medical associations and EU regulators to discuss how the new legislation will impact clinical practice, and how healthcare professionals and scientific experts may contribute to the regulatory process.

Membership

Since its launch at ESC Congress 2016, our new ESC Professional Membership programme has been especially well received. Last year, we went a step further, introducing membership packages that give healthcare professionals the opportunity to become both an ESC Professional Member and a member of an ESC subspecialty community at discounted rates. The sense of community and belonging I saw in the new Professional Members' Lounge at the last Congress was something I will never forget. There were cardiologists from all over the world, at different career stages and from all cardiology subspecialties, sharing their experiences and their knowledge. This is what the ESC is all about.

Fit for the future

The ESC must be able to anticipate and respond quickly to whatever comes our way. In the reporting period, we created three new ESC committees: Industry Relations; Digital Health; and Ethics and Oversight. The ESC rarely creates new committees and forming three in one year indicates our rapid response to changes in our environment and our development of new areas of expertise.

This is my final report as ESC President. I knew my time in office would go by quickly, but what surprised me most was the intensity of it all. Success in this position requires constant balancing between long-term planning and short-term management, in close collaboration with my colleagues on the ESC Board. I will be forever grateful for their tireless support and inspiration. I also thank the ESC staff working at the European Heart House in France, and the Brussels office in Belgium, for their support during my Presidency.

It is now time to hand over the steering of the ESC ship to someone else. I am delighted to pass the ESC presidency into the capable hands of my esteemed colleague Barbara Casadei. Barbara is the first woman to take the helm -- another important milestone for this society. I wish Barbara every success, and look forward to working with her as she takes the ESC to ever greater heights in the coming two years. For all of us, presidents, volunteers and members, our eyes remain fixed on the mission at hand: to reduce the burden of cardiovascular disease.

Jeroen Bax, FESC

ESC President 2016 - 2018

European Society of Cardiology Board 2016 - 2018

Elected voting members

President

Prof. Jeroen Bax, Netherlands

President-Elect

Prof. Barbara Casadei, United Kingdom
Cardiovascular Round Table and Research

Secretary/Treasurer

Prof. Ian Graham, Ireland

Vice-Presidents

Prof. Stefan Anker, Germany
National Cardiac Societies and Communications

Prof. Lina Badimon, Spain
Scientific Affairs (including Working Groups and Councils)

Prof. Bela Merkely, Hungary
National Cardiac Societies, Editors Network, and Cardiologists of Tomorrow

Councillors

Prof. Hector Bueno, Spain - *Advocacy*

Prof. Sarah Clarke, United Kingdom - *e-Communications*

Prof. Donna Fitzsimons, United Kingdom - *Grants*

Prof. Christophe Leclercq, France - *Global Affairs*

Prof. Cecilia Linde, Sweden - *Women in ESC*

Prof. Franz Weidinger, Austria - *Young ESC Community*

Ex-Officio voting members

Past-President

Prof. Fausto Pinto, Portugal

Associations Representatives

Prof. Maddalena Lettino, Italy - *President of ACCA*

Prof. Bogdan Popescu, Romania - *President of EACVI*

Prof. Diederick Grobbee, Netherlands - *President of EAPC*

Prof. Michael Haude, Germany - *President of EAPCI*

Prof. Gerhard Hindricks, Germany - *President of EHRA*

Prof. Frank Ruschitzka, Switzerland - *President of HFA*



Non-voting members

Prof. Stephan Achenbach, Germany - *Congress Programme Committee*

Mr. Nigel Clarke, United Kingdom - *Advisor*

Prof. Francesco Cosentino, Sweden - *Industry Relations*

Prof. Gerasimos Filippatos, Greece - *Membership*

Prof. Peter Kearney, Ireland - *Advocacy*

Prof. Paulus Kirchhof, United Kingdom - *Education*

Prof. Steen Dalby Kristensen, Denmark - *Media*

Prof. Thomas Lüscher, Switzerland - *Publications*

Prof. Gunnar Olsson, Sweden - *Advisor*

Prof. Alec Vahanian, France - *EORP*

Prof. Stephan Windecker, Switzerland - *Committee for Practice Guidelines*

Prof. Jose Zamorano, Spain - *Global Affairs*

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

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

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

Strategic Plan (2016 - 2020)

To support its mission of reducing the burden of cardiovascular disease, the ESC is focusing on five strategic areas



Congress

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



Research

Encouraging excellence and managing innovation



Education

Delivering world-class learning and professional development



Advocacy

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



Membership

Improving members' access to the latest science, best practices and networking



Strategic Trends

Areas of development that could affect each of these pillars include:

- Demographic shifts within the profession
- The technology revolution
- Globalisation and geographic reach
- A more stringent regulatory environment



ESC Activity Reports

Congresses

For the ESC, a congress is more than a simple gathering of people. Our congresses are highly relevant and unique platforms for the learning and exchange of strong, independent scientific content. ESC congresses leave a legacy by supporting cardiology professionals in delivering better care and reducing the burden of disease. These conferences have profound benefit to patients and society.

Producing our medical congresses is not without its challenges. Healthcare professionals must contend with time, budget and regulatory restrictions. As congress organisers, we are mindful of both information overload and the need for an individualised approach. This means creating impactful content, effective communication, and adapting our approach to make programmes relevant for different ages, nationalities and specialities. The ESC has been meeting these challenges head on through grant programmes, robust quality checks and constant innovation of our scientific programmes, in both content and format.

In the reporting period, the ESC and its subspecialty communities organised **10 subspecialty congresses**, as well as its flagship meeting, **ESC Congress, in Barcelona, Spain**. A total of **50,005 participants** from **152 different countries** took part in these events, underlining the continued value of medical congresses for the global cardiology community.

Facts and Figures

ESC Congress 2017

26 - 30 August 2017, Barcelona, Spain

Annual congress of the European Society of Cardiology



Spotlight: **40 Years of PCI**



Participants: **31,705**



Abstracts submitted: **10,804**



ESC scientific programme sessions: **535**



Lecture Rooms: **30**



Sponsored sessions: **109** (including satellite symposia, experts on the spot and hands on tutorials)



Exhibiting companies: **130**

NEW in 2017

'Big Picture Sessions' - focus on guidelines implementation and collaboration on registries with ESC National Cardiac Societies



#ESCCongress 

World's largest cardiovascular conference on Twitter achieving over 300M in hashtag potential impressions.



Subspecialty Congresses

EuroPrevent 2017

6 - 8 April - Malaga, Spain

Annual congress of the European Association of Preventive Cardiology

- Theme: Innovations in Preventive Cardiology
- Participants: 1,079
- Abstracts submitted: 681
- Scientific sessions: 59
- Lecture Rooms: 4
- Sponsored sessions: 6
- Exhibiting companies: 19

NEW in 2017

Career Cafe



#EuroPrevent

Heart Failure 2017

29 April - 2 May - Paris, France

Annual congress of the Heart Failure Association of the ESC

- Spotlight: Heart Failure: Rendez-vous with the future
- Participants: 5,024
- Abstracts submitted: 1,945
- Scientific sessions: 203
- Lecture Rooms: 8
- Sponsored sessions: 80
- Exhibiting companies: 28

NEW initiatives in the 2017 programme:

- Guidelines into Practice track
 - HFA Championships
 - HFA Grand Debates
 - Off the record sessions
- HFA News: new format



#HeartFailure2017

ICNC 2017: The International Conference on Nuclear Cardiology and Cardiac Computed Tomography

7 - 9 May - Vienna, Austria

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: 642
- Abstracts submitted: 312
- scientific sessions: 45
- Lecture Rooms: 3
- Sponsored sessions: 4
- Exhibiting companies: 13

NEW in 2017

Speed Mentoring, Oral abstract session "Talent of the future", Best young oral abstract session.



#ICNC2017

EuroHeartCare 2017

18 - 20 May, Jonkoping, Sweden

Annual congress of the ESC Council for Cardiovascular Nursing and Allied Professions, held in collaboration with the Swedish Association on Cardiovascular Nursing and Allied Professions

- Theme: Teamwork for Excellence in Cardiovascular Care
- Participants: 367
- Abstracts submitted: 229
- Scientific sessions: 19
- Lecture Rooms: 2
- Exhibiting companies: 8

NEW in 2017

Started a day earlier to allow time for networking, CPR competition, congress mobile app



#EuroHeartCare

EuroCMR 2017

25 - 27 May - Prague, Czech Republic

Annual meeting on CMR of the European Association of Cardiovascular Imaging

- Spotlight: Current clinical application of CMR
- Participants: 985
- Abstracts submitted: 441
- Scientific sessions: 65
- Lecture Rooms: 3
- Sponsored sessions: 3
- Exhibiting companies: 14

NEW in 2017

Speed Mentoring, level 2/3 dedicated case sessions (stress perfusion and congenital), congenital and technologist official tracks, quick fire cases, special course on 3D printing, Big CMR quiz



#EuroCMR

EHRA EUROPACE - CARDIOSTIM 2017

18 - 21 June, Vienna, Austria

Organised in collaboration with Cardioslim and the Working Groups on e-Cardiology and Grown-up Congenital Heart Disease and in conjunction with the 41st Annual Meeting of the ESC Working Group on Cardiac Cellular Electrophysiology.

- Main theme: Connect
- Participants: 6,202
- Abstracts submitted: 1,507
- Scientific sessions: 156
- Lecture Rooms: 11
- Sponsored sessions: 103
- Exhibiting companies: 54

NEW in 2017

Highlight session



#EHRA2017



EuroEcho-Imaging 2017

6 - 9 December, Lisbon, Portugal

Annual congress of the European Association of Cardiovascular Imaging

- Spotlight: Imaging in heart failure & Interventional imaging
- Participants: 3,973
- Abstracts submitted: 1,414
- Scientific sessions: 150
- Lecture Rooms: 7 lecture rooms & Agora & 1 TOE room & 2 Imaging Campus rooms
- Sponsored sessions: 9 (including satellite symposia & imaging campus industry sessions)
- Exhibiting companies: 23

NEW in 2017:

Transoesophageal Echocardiography (TOE) sessions in a dedicated room, High Tech corner



#EuroEcho

CMR 2018: The joint EuroCMR/SCMR Meeting

31 January – 3 February, Barcelona, Spain

Meeting on Cardiovascular Magnetic Resonance jointly organised by the European Association of Cardiovascular Imaging (EACVI) and the Society for Cardiovascular Magnetic Resonance (SCMR).

- Spotlight: Improving Clinical Value by Technical Advances
- Participants: 1,875
- Abstracts submitted: 1,047
- Scientific sessions: 73
- Lecture Rooms: 9
- Sponsored sessions: 13 (including Satellites, level 2/3 case sessions, Product Theatre and Face-Off sessions).
- Exhibiting companies: 20

NEW in 2018:

Level 2/3 dedicated case sessions (stress perfusion and congenital) and Speed Mentoring.



#CMR2018

Acute Cardiovascular Care 2018

3 – 5 March, Milan, Italy

Annual meeting for the Acute Cardiovascular Care Association

- Participants: 987
- Abstracts submitted: 596
- Scientific sessions: 61
- Lecture Rooms: 4
- Sponsored sessions: 1 Satellite Symposium, 1 Live Broadcasting, 5 Sessions supported with an educational grant
- Exhibiting companies: 8

NEW in 2018

ACCA School sessions
Debate sessions



#ACUTECVD18

EHRA Congress 2018

18 – 20 March, Barcelona, Spain

Spotlight: *The essentials for your everyday practice: from simple to complex arrhythmia, from atrial fibrillation to stroke.*

- Participants: 3,915
- Abstracts submitted: 983
- Scientific sessions: 154
- Lecture Rooms: 10 including the Agora
- Sponsored sessions: 79
- Exhibiting companies: 50

NEW in 2018:

First annual meeting of the European Heart Rhythm Association.



#EHRA2018



Research

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, 56 National Cardiac Societies and 45 Affiliated Societies.

EORP is now demonstrating its potential with the implementation of **16 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, complex and demanding diseases
- **Cardiovascular Prevention** a structured approach to prevent diseases (e.g. risk factors, epidemiology and preventive measures).

This success is partly illustrated by the publication of **22 papers** in peer-reviewed journals during the fiscal year. These included EORP's findings in the fields of: Atrial Fibrillation; evaluation of the acute and long-term safety of Transvenous Lead extraction; Heart failure; Pregnancy and Cardiac Disease; Infective Endocarditis; Valvular Heart Disease and Prevention. Some **92 publications** in total have now been published as a result of EORP's activity.

Much effort has gone into patient enrolment and statistical analyses. During ESC Congress 2017 there were a series of EORP scientific sessions, covering Atrial Fibrillation; Chronic Ischemic Cardiovascular Disease; Valvular Heart Disease; Coronary Artery Disease; Cardiomyopathy and Pregnancy in women with congenital heart disease.

Our emphasis is now on evaluating the level of implementation of ESC Clinical Practice Guidelines and identifying the gaps between guideline recommendations and what's actually happening in clinical practice.

Atlas

The ESC Atlas of Cardiology is a unique collection of qualitative and quantitative data-mapping cardiovascular health economics across ESC member countries.

In November 2017 the ESC published its first Cardiovascular Disease Statistics paper in the European Heart Journal. This landmark publication for the ESC represents the most comprehensive array of cardiovascular disease statistics from across Europe covering key topics such as major risk factors for cardiovascular disease, disease prevalence and mortality in each participating country.



The ESC Atlas of Cardiology also features new data on health infrastructure and cardiovascular services, provided by ESC member national cardiac societies. Other information sources include the World Health Organization (WHO), the Institute for Health Metrics and Evaluation, and the World Bank.

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

The second call for data was also launched in the reporting period, with 46 National Cardiac Societies participating.

EU Funded Projects

During the reporting period, the ESC has been a consortium partner in five European projects primarily funded under Horizon 2020, including:

- Beta3_LVH
- BigData@Heart
- CATCH ME
- ESCAPE-NET
- Papa Artis

CATCH ME - Characterising Atrial Fibrillation by Translating its Causes into Health Modifiers in the Elderly - brings together the expertise of leading academic institutes, healthcare organisations and professional societies to improve the care of patients with atrial fibrillation (AF). At ESC Congress 2017 the CATCH ME project launched two new apps - 'AF Manager' (for physicians) and 'My AF' (for patients.)

ESC Research Grants

A total 13 ESC Research Grants of €25,000 each were awarded. The grants are provided to medical graduates and researchers to undertake specialised cardiovascular research in an ESC Member Country centre of excellence.





Education

ESC Education Conference

The dialogue between the National Directors of Training & Education and the ESC Education Committee drives the development of needs-driven educational activities relevant to healthcare professionals in each country. The 5th ESC Education Conference was held at the European Heart House in Sophia Antipolis, France on 31 January - 1 February 2018.

80 participants from 45 ESC member countries gathered to discuss 'Digital Learning and the Future Cardiologist'.

New in the reporting period:

- Patient involvement
- Enhanced visibility and participation of young representative
- Audience interaction tool for online polling and audience interaction

Online learning

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

In addition to the 10 webinars in General Cardiology focusing on recently published ESC Clinical Practice Guidelines, the ESC's subspecialty communities delivered 48 webinars with an average of 250 participants per live session in the reporting period.

- **ESC eLearning Programme**

Seven areas of study, including general cardiology, imaging, arrhythmia, acute care, PCI, prevention and heart failure. Over 6,000 users engage with the 700+ programmes on the platform.

Ranging from course catalogue for CME / CPD to training programmes, in 2017 the ESC eLearning platform obtained the accreditation from UEMS-EACCME®. Learners can now gain CME credits for their activities on the platform.

- **ESC Clinical Case Gallery**

CCNAP and WG Myocardial and Pericardial Disease now use the platform. The gallery was also used to manage the call for cases for ESC Congress 2018 (500+ cases processed).

- **Guidelines Into Practice Tracks**

This resource is a selection of the most relevant presentations on recently published ESC Guidelines, facilitating navigation through the wealth of content from ESC Congress.

Face-to-Face Learning

European Heart Academy: Championing academic excellence 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 field by providing quality, innovative executive programmes.



The Academy runs three successful programmes leading to recognised postgraduate degrees:

- **Master of Sciences (MSc) in Health Economics, Outcomes and Management in Cardiovascular Sciences in collaboration with London School of Economics.** The programme counts more than 80 students in training from 28 countries. In addition, the first 32 graduates of the programme received their Master degrees in December 2017.
- **Diploma of Advanced Studies (DAS) in Cardiac Arrhythmia Management in collaboration with Maastricht University and the European Heart Rhythm Association (EHRA).** With more than 30 participants in training, it is a unique programme combining state-of-the-art cardiovascular electrophysiology, health economics and leadership coaching.
- **Certificate of Advanced Studies (CAS) in Heart Failure developed in collaboration with Zurich University, Zurich University Hospital and the ESC Heart Failure Association (HFA)** from which 62 students graduated in October 2017. A new class started in January 2018 and includes 63 participants from 36 nations.

ESC Subspecialty Courses

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

ESC Endorsed Courses

In 2017, the ESC Board agreed to deploy a 'Live Events Endorsement Policy' across the ESC Family. A pilot on general cardiology courses was successfully completed. The Education Committee is now collaborating with the ESC Associations, Working Groups and Councils to deploy the Endorsement Policy by 2019.

Assessment & Evaluation Programmes

Certification Activity

In 2017, the ESC and Associations delivered 19 exams to more than 2,400 candidates. The European Exam in General Cardiology (EEGC) is growing steadily in popularity, moving from 9 to 14 countries involved. In June 2017, **348 candidates** sat the examination. This is a successful collaborative initiative between NCS, ESC and UEMS Cardiac Section.

Subspecialty Certification Programmes typically include both knowledge and skills assessment. Last year saw the launch and generalisation of the new ESC MCQ database as well as the online logbook platform.

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. The aim is to evaluate the impact of these educational interventions and report the findings in peer-reviewed journals. Presently there are two programmes in the making: one on stroke prevention and management in Atrial Fibrillation; the second on raising awareness in mitral regurgitation.

ESC Training Grants

In 2018, **12 training grants** and three nursing grants valued at **€25,000 each** were awarded for a total of €375,000. These allow young cardiologists and nurses to train in centres of excellence in a country other than their own.



In 2017, the ESC and Associations delivered 19 exams to more than 2,400 candidates



Advocacy

ESC Advocacy leverages the knowledge, network and influence of the cardiology profession to promote policy, regulation and partnerships that advance cardiovascular science, support high quality healthcare and encourage evidence-based decision-making.

ESC scientific resources and findings from international collaborative projects translate into powerful advocacy messages to drive change. At the same time, partnering with like-minded stakeholders, is important for the ESC to maximise its influencing capacity.

In 2017-2018, advocacy efforts focused on:

- Research & innovation
- Prevention & public health
- Regulatory affairs on medical devices

Research & Innovation

European Alliance for Biomedical Research (Biomed Alliance)

Prof. Axel Pries, FESC was elected president of the Biomed Alliance for the period 1 January 2018 - 31 December 2019. It is the second time that the ESC holds the presidency of the BioMed Alliance since its creation in 2010. Karin Sipido held the Presidency in 2014-2015.

The main focus of the Biomed Alliance's work during the reporting period was to make the case for increased EU funding for health research in advance of the next framework programme, Horizon Europe. As part of this work, the BioMed Alliance produced a position paper calling for adequate funding for all types of research (basic, clinical and translational).

The ESC also led the new BioMed Alliance task force on Continuing Medical Education and how to respond to the industry trend of providing education directly to healthcare professionals, rather than through collaborative projects with independent partners, such as medical societies. The task force released a position paper illustrating how an industry go-it-alone approach threatens independent, high quality medical education.

Keeping Cardiovascular Research a Priority

To ensure that cardiovascular disease continues to be a research priority, the ESC responded to European Commission's consultations to shape the future EU funding programme for research.

Digital Health

The ESC is a member of the European Commission's Expert Groups on e-Health to ensure that the interests of cardiovascular healthcare professionals and their patients, are represented when EU policy and funding in this area are shaped at EU level. A Digital Health Committee was formed in 2018 to further develop all ESC digital health activities.



ESC held Presidency of European
Alliance for Biomedical Research

Prevention & Public Health

The ESC successfully engaged with the Austrian Ministry of Health in preparation for the Austrian Presidency of the European Union Ministerial Conference on Food and Health planned for November 2018. ESC participation in the dedicated preparatory session organised by Austria at the European Health Forum Gastein (EHFG) was a significant step in this process.

ESC remains an active member of the European Chronic Diseases Alliance (ECDA). It was founded in 2010 to reverse the alarming rise in chronic diseases by providing leadership and policy recommendations based on contemporary evidence. ESC's contributions included:

- the revision of ECDA's position papers on salt, alcohol, industrially produced trans fats and air pollution
- the publication of a new statement on physical inactivity
- a common statement on World No Tobacco Day.

The ESC maintained strong working relations with the European Heart Network (EHN) for the promotion of common interests in Brussels, including joint work to support the Members of the European Parliament (MEP) Heart Group.

Similarly, ESC experts took part in relevant World Heart Federation (WHF) activities on global advocacy including working with the WHF Diabetes Writing Group on targeted action needed on common risk factors.

Regulatory Affairs on Medical Devices

The ESC has been playing a leading role in providing expert advice to the European Commission in the implementation of the new EU Regulation on medical devices agreed in Spring 2017. For instance, the ESC together with the European Association of Percutaneous Cardiovascular Interventions (EAPCI) played an important role reviewing evidence in the clinical evaluation of bioresorbable scaffolds, published in the *European Heart Journal* in September 2017. This was highlighted by the European Commission as model for the development of device-specific guidance under the new medical devices legislation Spring 2017.

The ESC has also collaborated with international bodies (the International Organisation for Standardisation, and the International Medical Device Regulators Forum) dealing with global regulatory convergence of medical devices.

The ESC played an important role reviewing evidence in the clinical evaluation of bioresorbable scaffolds. Working with the European Association of Percutaneous Cardiovascular Interventions (EAPCI), the ESC subsequently published its findings in the *European Heart Journal* in September 2017. The European Commission highlighted this work as a model for the development of device-specific guidance under the new medical devices legislation passed in May 2017.

Within the framework of the European Network for Health Technology Assessment (EUnetHTA), ESC experts contributed to the systematic health technology assessment (HTA) review of evidence on the clinical effectiveness and safety of wearable cardioverter defibrillators (WCD). The ESC is also a member of the EUnetHTA providers group, and actively worked with stakeholders and the European Commission in anticipation of the EU legislative proposal on HTA that was presented in January 2018.

To share knowledge and promote engagement of the cardiology community, the ESC EU Regulatory Affairs Committee exchanged with the ESC specialty community: meetings were in particular held with the leadership of the European Association of Cardiovascular Imaging (EACVI) and European Heart Rhythm Association (EHRA).

These activities culminated with the ESC organising a gathering of leading scientists from some twenty medical associations in Europe, as well as EU and national regulators, to discuss: the safety and performance of the medical devices used to diagnose and treat patients; how the new European regulatory landscape impacts clinical practice, and what opportunities lie ahead for the involvement of medical experts in the regulatory process.

The ESC is a founding member of the BioMed Alliance, ECDA and the MEP Heart Group.



The ESC organised a gathering of leading scientists from more than twenty medical associations in Europe

ESC Cardiovascular Round Table

The Cardiovascular Round Table (CRT) is a strategic forum to facilitate high-level, transparent dialogue on the future of cardiovascular disease between the ESC leadership and the cardiovascular industry, represented by a group of 21 pharmaceutical and medical equipment manufacturers. We are proud to announce that Novo Nordisk joined the CRT in April 2017.

Regulatory and R&D activities: The CRT continues to work with academia, industry and regulatory authorities on the requirements for registration in specific therapeutic areas.

3 workshops were organized on:

- *"Percutaneous valve intervention: achievements to date and key remaining questions"* - October 2017
- *"Knowledge gaps in Diabetes and CVD"* - February 2018
- *"Stroke as interdisciplinary challenge in prevention and management"* - March 2018

Plenary meetings:

The CRT organised two plenary meetings in the reporting period:

- *"New models of collaboration between industry, health professionals and the ESC to reduce the burden of CV disease"* - May 2017
- *"Improving our communication with the outside world"*, with representatives from cardiologists, communications agency, journalists, health organisations and pharmaceutical, medical device, and information technology companies - October 2017

These meetings provided valuable insights for cardiologists and the ESC about external audiences. Participants shared examples of good practice and identified some of the key challenges and opportunities in communicating more often and freely with the general public.

Ongoing activities: The CRT published three papers and articles summarising key messages and conclusions from CRT activities in the reporting period:

- NOACs in Atrial Fibrillation: Current considerations for Novel Oral Anti-Coagulants in Atrial Fibrillation from the ESC Cardiovascular Roundtable - 14 August 2017, *European Heart Journal*
- Early diagnosis of acute coronary syndrome - 03 October 2017, *European Heart Journal*
- New strategies for the development of lipid-lowering therapies to reduce cardiovascular risk 28 November 2017, *European Heart Journal: Cardiovascular Pharmacotherapy*
- In draft: Transcatheter Heart Valve Interventions: Where are We? Where are We Going?

CRT participating companies

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

As one of the five pillars of ESC's Strategic Plan, membership was a key focus for the past year. To build a more supportive member-care organisation, the ESC and its subspecialty associations introduced a number of initiatives:

Launch of Membership Packages at ESC Congress 2017

In response to demand from our members, "membership packages" were developed and launched at ESC Congress 2017. A membership package allows an individual to take ESC Professional Membership and one or more sub-specialty Association Silver level membership (or two or more sub-specialty Association Silver level memberships) together at the same time and at a reduced rate. The programme has been enthusiastically received. Twenty percent of ESC Professional Memberships were purchased as part of a package during this first reporting period.

Enhance the value proposition for ESC Professional Membership with innovative products

The value proposition for ESC Professional Membership was further developed with new benefits added, including CME credits for ESC Professional Members completing webinars in general cardiology or taking the online CPD programme in general cardiology.

Member recruitment and retention initiatives

Joint initiatives to promote both membership of National Cardiac Societies and ESC Professional Membership were undertaken with a number of National Cardiac Societies. Also of note, the NCS/ESC Professional Membership royalty scheme was implemented for the first year.

For ESC Congress 2018, a one-off "extra early bird" rate, with associated campaign, was introduced for ESC Professional Members registering for ESC Congress 2018. It helped retain many of those who received a free membership at the original launch at ESC Congress 2016 in Rome.

The online registration process was further improved, to enable joining or renewing membership as an integrated part of the ESC Congress registration process. This has led to increased recruitment and retention of ESC Professional Members, as well as an increased awareness of ESC Professional Membership.

Build Member experience at ESC Congress 2017

An extremely positive on-site experience for Professional Members at ESC Congress 2017 in Barcelona was delivered through the introduction of a Professional Members' Lounge in the ESC Plaza. It offered exclusive networking activities and an opportunity to relax or work in a comfortable environment.

Shift to Member-Centric Culture

The reorganisation of the ESC divisional structure in January 2018 and the creation of a Membership & Community Division have helped transition the ESC towards a more member-centric culture. This is seen as essential to implement the ESC's strategic plan and help recruit and retain members.

ESC Clinical Practice Guidelines

The Committee for Practice Guidelines (CPG), responsible for the development of the ESC Guidelines and ensuring their quality and accuracy since 1994, also brings together the expertise of ESC subspecialties and other medical specialties, as well as National Cardiac Societies. It has enabled the ESC Guidelines to earn a worldwide reputation as a trusted source on best practices.

Guidelines published in the reporting period

Four ESC Guidelines were released at ESC Congress 2017 in Barcelona:

- AMI-STEMI
- Valvular Heart Disease
- Peripheral Arterial Diseases
- A focused update on Dual Antiplatelet Therapy

These guidelines and focused update were **downloaded more than one million times** between end of August 2017 and end March 2018.

In addition, the 2018 Guidelines for the Diagnosis and Management of Syncope was presented at the EHRA Congress in March 2018.

Derivative products of the ESC Guidelines are becoming increasingly popular. The Pocket Guidelines and the Summary Cards are in the process of being translated by many National Cardiac Societies. The ESC Pocket Guidelines Application, available at no cost on all application platforms, had more than 90,000 unique users at the end March 2018. It contains 25 titles, more than 140 interactive tools, and many new features including special folders for the Essential Messages and Summary Cards.



ESC Publications

The *European Heart Journal* has become the **first journal** in its Cardiac & Cardiovascular Systems Impact Factor category to achieve a **score of over 20**. With a consistent focus on quality, the EHJ's Impact Factor reached a record **20.213** (2016 = 15.064). Record IF ratings for other ESC titles were also recorded in 2017.

Despite the initial challenges of migrating seven journal titles to a new online platform, usage of journal content again registered over **13 million full text article downloads**.

With increasing attention to the new research workflow solutions, the ESC Publications Committee and our publishers adopted initiatives to enrich our publishing activities, e.g. Kudos, Altmetric and Publons.

High on the agenda is the impact of Open Science and the resulting need for new and creative business models.

Covering the whole spectrum of cardiovascular medicine, our continually growing ESC publications family has again seen a new addition during the reporting period. *The European Heart Journal: Case Reports* is a new open access journal available only online. The new title provides an excellent opportunity for younger doctors and researchers to begin their publishing careers. A reviewer mentoring programme is another innovation of note.

The ESC appointed a Social Media Editor for our new ESC Journals Twitter channel (@ESC_Journals) who is now tasked with ensuring cross-journal family promotion of important content. This social media support has resulted in 200% to 500% more Twitter referrals per title.

Lastly, all of our journals received widely appreciated new covers during the ESC's re-branding project.



**Record Impact Factor for
European Heart Journal: 20.213**

 **Join us @ESC_Journals**

ESC Grants and Scholarships



Record €2,692,157
given in grants

The ESC is committed to supporting the cardiology community through a range of grants and fellowships that 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 record €2,692,157 to individuals within the cardiology community.

In addition to this financial support, 702* free ESC Congress registrations and ESC Professional Memberships were also given to individuals - a total value of €280,800.

Grants awarded in the fiscal period include:

Grant type	Total in €
ESC Research and Training Grants	672,433
Scholarships for MSc in Health Economics with LSE London School of Economics	259,932
ESC Congress Educational Grants	213,900
NEW: ESC partnership programme with National Cardiac Societies - ESC Congress Educational Grants	67,150
Grants for Women Transforming Leadership Course with Said Business School, Oxford	49,750
ESC Congress Awards	39,018
ESC Association, Council and Working Group grants and awards**	542,389
Subspecialty congress awards	61,463
- NEW EHRA Congress educational grants ***	402,350
Board donations for charities	49,455
- European Heart for Children	
- Chain of Hope	
ESC Grants for Medical Research Innovation****	334,318

*524 awarded through National and Affiliated Cardiac Societies and 178 awarded through the ESC Congress Educational Grants. Total value based on a Professional Member aged under 35 years registration fee of €370 and 'in training' ESC Professional Membership fee of €30

**A total of €232,000 (43%) were supported by industry in the form of unrestricted educational grants

***Supporting EHRA members to attend EHRA Congress 2018 to manage the new impact of MedTech regulation.

****This grant was 100% sponsored by Boehringer Ingelheim in the form of an unrestricted educational grant.

Women in ESC



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

In 2017, the ESC analysed the working environment of today's cardiologist through a survey of 4,761 ESC members from 17 countries. The study produced an overview of challenges within the profession and helped identify ways to promote the practice of high-quality, evidence-based and gender-balanced cardiology.

Preliminary results from the survey were shared during a dedicated meeting at ESC Congress 2017. They were also provided to leaders of National Cardiac Societies at the ESC Spring Summit at the European Heart House in March. The need to support all cardiologists, through each career stage, and in a work environment that is becoming increasingly stressful, was a key take-home message.

For the third consecutive year, the ESC sponsored eight grants for members to attend the Women Transforming Leadership Programme for a total €46,240. This innovative executive education offering was established by the University of Oxford to assist women in achieving their full career potential. In 2017, 110 members applied for the grant, underlining the need for this type of training within cardiology. The ESC also reviewed women representation within its governance structure.

Digital Health

Digital Health is transforming healthcare and the ESC is fully engaged in this critical new area of high tech development. It is focussed on disseminating relevant information and supporting its members in the most impactful and safe applications of digital health solutions to prevent and treat cardiovascular disease.

In March 2018, the ESC announced the creation of a new Digital Health Committee to drive activities at a strategic level within the ESC. New activities from this committee will be announced in the coming year.

At ESC Congress 2017, a new digital health area was tested to introduce the cardiology community to new innovations from digital health start-ups. This received considerable interest from delegates.

Young cardiologists

The ESC includes 11 groups of young cardiologists representing general cardiology (Cardiologists of Tomorrow, CoT) and 10 subspecialties:

- Young ACCA Community - YAC³
- Electrophysiology: EHRA Young EP
- EAPCI New Initiatives for Young Interventionalists Committee
- Basic Science: Scientists of Tomorrow
- Imaging: EACVI Heart Imagers of Tomorrow
- Heart Failure: Heart Failure Specialists of Tomorrow
- Prevention: EAPC Young Community
- Working Group on Thrombosis: Young Researchers
- Cardiovascular Pharmacotherapy: Cardiovascular Pharmacotherapists and Trialists of Tomorrow
- Working Group on Myocardial and Pericardial Diseases "Young in Career"

The ESC undertook the following activities to support these groups:

ESC Congress 2017

- **FREE registrations for NCS and ACS members:**
 - **524 cardiologists** under the age of 36 (418 from National Cardiac Societies and 106 from Affiliated Cardiac Societies) attended ESC Congress 2017 with free registration and free ESC Professional Membership through the ESC's Cardiologists of Tomorrow Programme (total support worth €209,600)* Young cardiologists are nominated by their National Cardiac Society. The ESC offers 25 free registrations to each of its 56 National Cardiac Societies and 45 Affiliated Cardiac Societies
- **A discounted registration fee** was offered to those 35 and under and to abstract presenters 35 and under



A Digital Health Committee was formed in 2018 to further develop all ESC digital health activities.



- Dedicated sessions for Cardiologists of Tomorrow and Scientists of Tomorrow
- Clinical Case sessions provided the opportunity to present science and networking, with awards to the best challenging clinical cases to the value of €5,000
- Six Young Investigator Award (YIA) sessions were conducted, leading to a €30,000 support from the ESC

**Based on Professional Member under registration fee of €370 and 'in training' ESC Professional Membership fee of €30*

Spring Summit 2018

For the first time, young leaders from all National Cardiac Societies were invited to join this important event at the European Heart House. Forty young cardiologists were present (28 NCS young leaders, 6 sub-specialty young leaders and 7 CoT nucleus (one was also an NCS young leader for Kazakhstan).

It was a great opportunity for them to network with their peers and to take part in the presentations and discussions on:

- Modern communication
- Stress
- Working in practice
- Acquiring knowledge
- Social media

ESC Professional Membership

To help cardiologists in training access the best scientific resources, an ESC Professional Membership is available to them at a significantly reduced fee.

ESC Family - Visual Identity

A significant review of the ESC's visual identity was undertaken in the reporting period. The aim of this exercise was to more clearly identify ESC communities and ESC science as part of the same family.



Constituent Bodies and Partner Activities

ESC Subspecialty Communities



Acute Cardiovascular Care Association (ACCA)

President: Dr. Maddalena Lettino, FESC (2016 - 2018)

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

Membership

ACCA has four levels of membership as well as a combined ESC/ACCA membership package. The ACCA community now has 2,300 members and as of March 2018, more than 50% are young doctors under the age of 40. A programme to recognise experts in the field was launched in the first quarter of 2018.

Congresses

With an average 1,000 participants every year, the Acute Cardiovascular Care Congress is the leading scientific event for all healthcare professionals working in acute cardiac care. This past year was one of transition as the ACCA board took the decision to move the Congress from the autumn to spring. This strategic choice was made to increase opportunity for:

- Earlier submission and discovery of innovative science in the field of acute coronary syndromes
- Expanding delegate reach (to allied professionals) and enabling participation and networking in other relevant congresses throughout the year

Acute Cardiovascular Care Congress 2018 took place in March in Milan, Italy.

In 2017, ACCA held two important events for its community:

- **ACCA Masterclass on acute coronary syndromes (March 2017 in London, UK)**
 - o Exchange and debate on the current state of practice, advancement, and future challenges specific to the acute areas of cardiovascular care
 - o 80 + professionals, experts and key opinion leaders
- **ACCA School (November 2017 in Madrid, Spain)**
 - o Two days of practical, hands-on sessions for best patient care
 - o 60 young cardiologists
 - o An optional certification exam



Research

ACCA contributes to the EURObservational Research Programme (EORP), participating in the Acute Coronary Syndrome registries: NSTEMI, STEMI; Spontaneous Coronary Artery Dissection (SCAD) and Valvular Heart Disease II (VHDII) surveys.

In the reporting period, ACCA published a number of major position papers on the organisation of chest pain units and intensive cardiovascular care units, quality indicators for acute myocardial infarction, SCAD and others such as heart failure, biomarkers, pre-hospital care or secondary prevention. In addition, ACCA initiated the development of ACCA scientific posters, providing a concise overview of best practice in focused areas. Research was recognised within the Acute Cardiovascular Care Congress scientific programme through dedicated sessions and prizes.

Education

Education is a major focus area for ACCA

In 2017, ACCA launched its online educational programme through the ESC eLearning platform with more than 100 interactive courses available (more than 30 topics), based on the Intensive and *Acute Cardiovascular Care Textbook* content (updated in February 2018) and addressing the syllabus in preparation for the exam.

Focused webinars complement the ACCA educational programme.

The 2018 edition of the ACCA Clinical Decision Making Toolkit was published, with an expanded drug section and a new chapter on secondary prevention after acute coronary syndrome.

More than 80 candidates take the certification exam every year.

European Heart Journal - Acute Cardiovascular Care (EHJ-ACVC) is the official journal of the Acute Cardiovascular Care Association (ACCA).

- Editor-in-Chief: Christiaan Vrints (BE)
- Current volume: 7 (year 2018)
- Issues per subscription: 8

Advocacy

The annual ACCA summit gathers ACCA's network of national acute coronary syndrome representatives, whose role is to promote standards of acute cardiovascular care and contribute to surveys or gap analysis that inform position statements and consensus documents.

Strategic Trends

ACCA focuses on four major trends which guide its strategic development and initiatives:

- How to reduce inequity and ensure more people receive the acute cardiovascular care they need
- How to promote a patient-centric approach among a full and educated heart team
- How to value acute cardiovascular care as a subspecialty and enhance its educational standards
- How to promote research and defining gaps of evidence in the field of acute cardiovascular care



European Association of Cardiovascular Imaging (EACVI)

President: Professor Bogdan Alexandru Popescu, FESC (2016 - 2018)

Mission: *To promote excellence in clinical diagnosis, research, technical development and education in Cardiovascular Imaging*

Membership

The EACVI had three levels of membership as well as a combined ESC/EACVI package launched in August 2017. The Association expanded its community to more than 9,800 members from around the globe.

The EACVI also supports and trains its young community which represents 40 % of its members.* Its dedicated 'Heart Imagers of Tomorrow (HIT)' committee has worked in close collaboration with EACVI committees and industry partners to get more young fellows involved in the Association and establish cross collaboration within the National Societies and Working Groups with the active involvement of HIT Ambassadors.

Last but not least, the EACVI Summit gathered 39 chairpersons from National Societies and Working Groups in 33 countries, and for the first time 12 HIT Ambassadors joined the event to lend their voices to the discussion.

Congresses

It has been a very active period with the delivery of four very successful congresses, welcoming a total of 7,100 attendees from all over the world.

The Association held its annual congress, EuroEcho-Imaging, in Lisbon in December 2017. This edition was the largest ever with nearly 4,000 participants from more than 70 countries, offering over 150 sessions.

The EACVI Board started working on the preparation of the first edition of a unified, multi-imaging modalities congress that will take place in Barcelona from 9 to 12 December 2020.



Research

A priority of the EACVI is to promote research.

The large NORRE study, assessing normal subjects with state-of-the art echo technologies, is a collaborative project involving EACVI-accredited laboratories. The data collected have led to the publication of six important original articles. Other articles will be produced from this large database, providing normal reference values for new parameters.

Another EACVI multicentre study, Eurofilling, is an echocardiography assessment of diastolic function performed in a few expert centres. It has resulted in two important articles already published and other results to follow, and provides important information for clinical practice.

Education

To support continuing medical education, every year the EACVI develops a range of face-to-face and online educational courses for maintaining professional excellence among imaging specialists.

Today, the EACVI e-Learning programmes includes a total of nearly 70 tutorials, covering the four imaging modalities, with the 10 most recent being on Nuclear Cardiology and Cardiac Computed Tomography. The Association also produced a multi-imaging toolbox on aortic stenosis and its webinar series has proved highly popular, welcoming close to 3,500 attendees during the 15 live events. In 2017, six courses were delivered while more than 20 events were endorsed.

A task force is working on developing a patient-centric, clinical multimodality imaging (MMI) approach. The task force is preparing a position paper which will describe the concept and the importance of an MMI approach, and will also review the background, training, and competence required to become an MMI specialist.

Certification continued to be a flagship initiative with 1,000 candidates enrolling in the eight exams proposed in 2017, including the first exams in Nuclear Cardiology Cardiology and in Congenital Heart Disease (CHD) in Cardiovascular Magnetic Resonance (CMR). In 2018, the EACVI will work on the launch of the certification in a new field: Cardiac Computed Tomography.

Our journal, the *European Heart Journal - Cardiovascular Imaging (EHJ-CI)* achieved a record Impact Factor of 5.990, (2016 4.293) for the second year running, while the launch of the EACVI Textbook of Echocardiography (second edition) was also very successful. In addition, the Association maintained its annual edition of the EACVI Compendium, and 11 EACVI recommendation papers were published in the EHJ-CI, some of which were issued jointly with partner societies.

Advocacy

The EACVI is reinforcing its position as a leader within Europe's Cardiovascular Imaging community as seen with greater implementation of EACVI recommendations. Much effort has been devoted to publishing 11 scientific papers in 2017. In addition, a task force has been established to initiate dialogue with radiological and nuclear medicine societies, in order to define the common background, training and skills required to perform and interpret Cardiac Computed Tomography/Nuclear and Cardiovascular Magnetic Resonance studies.

**Members under 38 years old or under 40 years old in training.*



European Association of Preventive Cardiology (EAPC)

President: Professor Diederick E. Grobbee, FESC (2016 - 2018)

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

Membership

In 2017, the EAPC community grew to over 6,700 healthcare professionals. The Association launched its Gold membership level, and contributed to defining the ESC & Associations combined membership offers.

The EAPC Young Community LinkedIn group has over 330 followers (+120 new members in 2017). Young Community sessions and networking events are now regularly held during EuroPrevent congresses.

Congresses

EuroPrevent, the EAPC annual congress, is the leading congress in preventive cardiology. The 2017 edition was held in Malaga, Spain, with more than 1,000 participants and over 140 international faculty members who gathered for three days of scientific exchange on the latest advances in the field.

Research

The EAPC journal, the *European Journal of Preventive Cardiology*, achieved a noteworthy Impact Factor rating of 3.606 (2016 3.361) in 2017. A supplement on "Essentials of Secondary Prevention" was published in June 2017, garnering over 15,000 downloads in only six months.

A survey on factors influencing patients' self-reported lifestyle changes and medication adherence following an acute cardiac event was conducted for the ESC prevention of CVD Programme, within the Euroaspire V survey. Data from more than 4,300 patients in 12 countries were recorded.





Education

Education is at the core of the EAPC's mission. In 2017, the Association delivered a number of specific programmes including master classes on unmet needs in secondary prevention, and on practical implementation of cardiovascular polypills, as well as training courses in preventive cardiology, cardiac rehabilitation, and sports cardiology. The EAPC also endorsed seven international educational events.

Online resources were also published in the framework of the ESC Prevention of CVD Programme, led by the EAPC in collaboration with the Acute Cardiovascular Care Association and the ESC Council on Cardiovascular Nursing and Allied Professions. These include risk assessment, treatment goals, rehabilitation information and an online calculator for secondary prevention (SMART Risk Score).

Advocacy

To support the ESC's Advocacy agenda, 15 experts currently act as spokespersons for CVD prevention, exercise, epidemiology and sports cardiology. These spokespersons provide expert input to the ESC's advocacy initiatives and act as ESC representatives at policy events and meetings. In 2017, the EAPC spokespersons provided input on nutrition and food labelling policies.

Five new reports presenting the achievements of national CVD prevention coordinators and National Cardiac Societies were also published last year.



European Association of Percutaneous Cardiovascular Interventions (EAPCI)

President: Professor Michael Haude, FESC (2016 - 2018)

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

Membership

The EAPCI community represents a large network of professionals with over 9,500 members from more than 115 countries.

Congresses

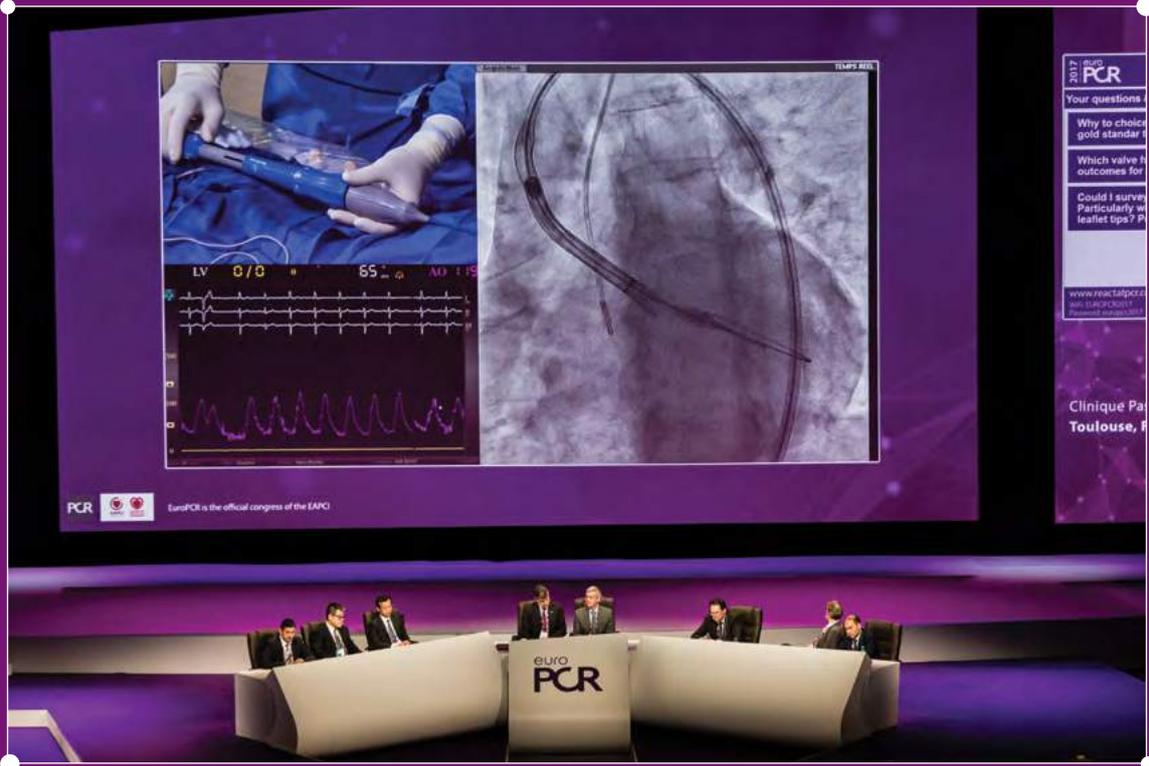
EAPCI members made a major contribution to ESC Congress 2017 in Barcelona as well as to the two official EAPCI annual courses:

- EuroPCR, the world-leading course in interventional medicine welcomed 11,700 participants from 114 countries.
- PCR London Valves: the Heart Team Course focusing on transcatheter therapies for valvular heart disease was attended by 2,500 participants and involved three centres in London, Milan and Rostock.

Research

The EAPCI continued to support, through the EURObservational Research Programme (EORP), the Acute Coronary Syndrome registries: NSTEMI, STEMI and Spontaneous Coronary Artery Dissection (SCAD). In addition, the Association initiated the development of the EAPCI White Book to map interventional cardiology across Europe. A joint consensus document endorsed by the ESC and the EACTS, introducing new standardised definitions of transcatheter aortic valve durability was published simultaneously in the *European Heart Journal* and the *European Journal of Cardio-Thoracic*.





Education

The EAPCI supported young interventional cardiologists by holding the fourth EAPCI Fellows Course in May 2017, before EuroPCR, to prepare the next generation of EAPCI leaders. The EAPCI supported six education and training grants, 10 micro-fellowship standard training programmes as well as the interventional cardiology area of the ESC e-Learning platform, leading to a certificate of excellence in training. The 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 impressive Impact Factor of 5.165 (2016 3.863).

Advocacy

Advocacy activities included the Valve for Life initiative launched in Poland, France and Portugal as well as the on-going collaboration with EU regulators to ensure the safety, relevance and availability of medical devices. Valve for Life, which remains a top priority, seeks to increase awareness of valvular heart disease and to allow patients with valvular heart disease to receive the guideline-recommended diagnostic and therapeutic work-up.



European Heart Rhythm Association (EHRA)

President: Professor A. John Camm, FESC, FEHRA
(June 2017 - August 2018)

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

Membership

EHRA 2017 membership calendar ended in August with 2,487 paying members from across the globe. More than 430 young electrophysiologists joined the young EP network on LinkedIn group

Congresses

A record 6,200 heart rhythm specialists from around the world attended the 2017 EHRA EUROPACE-CARDIOSTIM Congress in Vienna.

EHRA leadership decided to take full ownership of the congress, making it an annual scientific meeting and holding it in March as of 2018. The event is now called "EHRA Congress". The first solo EHRA congress took place on 18-20 March in Barcelona and attracted 4,000 delegates despite the challenging new Medtech regulation.

Research

EHRA routinely conducts online surveys involving more than 150 European centres (part of the EHRA Scientific Research Network) and publishes the results in the *EP Europace Journal*. A snapshot survey was also conducted and evaluated data and short-term outcomes of implantable cardioverter defibrillators (ICD), and, more particularly, a subgroup of patients implanted with subcutaneous devices (S-ICD).



**First solo EHRA Congress attended
by 4,000 delegates**



EHRA works with EORP and contributes to a number of important registries and trials, with 2017 witnessing the publication of the results of “European Lead Extraction ConTROLled Registry (ELECTRa)” in the European Heart Journal, October issue.

Together with large international scientific societies/associations and the European Resuscitation Council (ERC), EHRA is involved in the European Sudden Cardiac Arrest network: towards Prevention, Education, New Effective Treatment (ESCAPE-NET), as part of the Horizon 2020 funded project, in order to translate the outcomes into European clinical practice for the prevention of SCA, and European infrastructures to improve survival after Sudden Cardiac Arrest.

Education

Every year, EHRA designs and provides the latest educational training programmes to help maintain professional excellence among cardiologists specialising in pacing and arrhythmias. In 2017, seven courses and 12 webinars were delivered while 347 candidates sat for the certification exams and 19 centres joined the EHRA Recognised Training Centres. This year again, one international training fellowship was granted, while 16 EHRA Observational Training Programme grants were awarded to physicians from across Europe

Advocacy

A major activity in 2017 was to translate the EHRA patient website “afibmatters.org” into Russian. Another important project was the rollout of the “EHRA First Responder App” which is supported by the EP German National Cardiac Society and is advancing well in Germany.

A strong scientific network of 197 female EP experts was formed. It includes 152 who are interested in actively participating in EHRA congresses and other scientific meetings as chair or speaker.

Journal

EP Europace is the official journal Official journal of the EHRA as well as, the ESC Working Group on Cardiac Cellular Electrophysiology, and the ESC Working Group on e-Cardiology.

Editor-in-Chief: G. Hindricks, FESC (Germany)

Current volume: 20 (year 2018)

Issues per subscription: 12

Impact Factor 4.521



Heart Failure Association (HFA)

President: Professor Frank Ruschitzka, FESC, FHFA, HFA President (2016 - 2018)

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*

Membership

HFA membership continues to go from strength to strength and now includes 11,000 members.

Congresses

Heart Failure 2017

The Heart Failure Congress 2017 took place in Paris and attracted more than 5,000 participants. The HFA congress is now the world's leading congress for experts in cardiology to discuss strategies for a universal approach towards prevention and the treatment of heart failure. This year's congress programme covered how the latest techniques can be best combined to optimise medical and device management so that we can ultimately improve symptoms and outcomes in our patients with heart failure.

HFA Winter Meeting

The HFA Winter Meeting on Translational Heart Failure Research has a longstanding tradition and has emerged as the best basic and translational heart failure meeting in Europe. The 2018 meeting was attended by 122 participants.

HFA Summit

The annual HFA Summit was held in Krakow and attended by the Presidents of National Heart Failure Societies and Working Groups.

The HFA also took part in eight joint sessions during international Heart Failure congresses, including in 26th Congress of the Inter-American Society of Cardiology, the 21st Asian-Pacific Society of Cardiology Congress, the 21st Annual Scientific Meeting of the Japanese Heart Failure Society and the 3rd Meeting of the HFA-India.

Research

The HFA counts 15 Committees covering all aspects of heart failure from basic edge cutting science to patient care management. Ten workshops were organised by HFA Board members to write key position papers. Key topics included Advanced Heart Failure, Cardiomyopathies and Cardio-Oncology.



Journals

The HFA has two official journals; the *European Journal of Heart Failure* with an impact factor of 6.968, (2016 = 5.135) and the *ESC Heart Failure Journal*, which is an online, open access journal.

Education

Online Education

- 27 modules are now available on the Online Heart Failure education programme on the ESCeL platform.
- Four webinars were released from June 2017 to March 2018 on topics such as iron deficiency, arrhythmias and hyperkalaemia.

Certification Exam

The second certification exam of the Heart Failure Association took place at HF Congress 2017 with more than 80 participants.

Post Graduate Course in Heart Failure

The Post Graduate Course in Heart Failure consists of 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 recognized expert. In the reporting period, more than 60 candidates enrolled.

Clinical Trialists Summer School

The NEW Clinical Trialists Summer School is a complement to the Post Graduate Course in Heart Failure. The first edition focused on clinical trials and data analysis and attracted 25 students from all over Europe participated.

Grants

50 travel grants were distributed for HF Congress 2017.

Advocacy

The HFA patient website, heartfailurematters.org, has seen a significant increase in visitors and now attracts 2.5 million a year. In the reporting period, the website was also translated into Swedish, bringing the total available languages to 10.

Heart Failure Awareness Day in May 2017 continues to grow with outstanding participation in 2018 from 30 countries. Due to the consistently high quality of their Awareness Days programme, Germany was awarded the first Gold Award for Heart Failure Awareness during the Inaugural Ceremony of Heart Failure 2016 in Florence. Subsequently, Lithuania received the Gold Award in 2017 during the Inaugural Ceremony of Heart Failure 2017 in Paris.



Councils



Council on Basic Cardiovascular Science (CBCS)

Chair: Professor Jeremy Pearson, FESC, Chairperson 2016 - 2018

Aim: *To enhance the importance of basic science to clinical cardiology*

Membership

The CBCS young community, the Scientists of Tomorrow, increased its connections with other young communities both in and outside the ESC. At ESC Congress 2017 it participated in scientific sessions, career sessions and breakfast sessions. The community has its own newsletter and LinkedIn platform where it disseminates basic and translational educational material as well as career opportunities to 700 followers. It also promotes awards and grants for young scientists.

Congresses

The CBCS delivered Basic Science at ESC Congress 2017 in a village dedicated to this topic. In 2017, the Council collected 62 proposals for ESC Congress 2018 that it refined for submission.

Research

During the course of 2017/2018, the Council awarded eight grants for research:

- Five First Contact Initiative Grants, to allow young scientists to establish contact with hosting institutions with the aim of obtaining a fellowship or research affiliate position, Two Outstanding Achievement Awards, to recognise investigators of exceptional merit
- One Basic Research Fellowship

Education

In 2017 the Council organised the Basic Science Summer School at the European Heart House. It is aimed mainly at early stage researchers (PhD and MD/PhD students in the first three years of their research).

The Summer School was held over five days and includes keynote lectures, plenary sessions and career advice. In 2017, the Basic Science Summer School attracted 73 participants from 30 countries. The Scientific Programme was delivered by a faculty of 30 experts.

50 travel grants were awarded by the Council for ESC Congress 2017.





Council on Cardiovascular Nursing and Allied Professions (CCNAP)

Chair: Professor Ekaterini Lambrinou, FESC, Chairperson 2016 - 2018

Aim: *To promote excellence in Cardiovascular Nursing and Allied Professions through practice, education, and research.*

Membership

The CCNAP membership has risen to more than 3,000 members to whom grants and awards were offered: 20 travel grants for EuroHeartCare, a post-doctoral mentoring award, an award for excellence in clinical care, as well as mentoring facilities.

Congresses

Designed on the theme 'Teamwork for Excellence in cardiovascular care', EuroHeartCare 2017 took place in Jönköping, Sweden. The two-day programme was composed of 11 lecture sessions, eight abstract-based sessions, three moderated poster sessions and two workshops. There were 193 abstracts accepted for the event that attracted 331 participants from 36 countries.



Research

The *European Journal of Cardiovascular Nursing* is the International Journal of the European Society of Cardiology dedicated to the advancement of knowledge in the field of cardiovascular nursing, promoting evidence-based clinical practice. Scientific contributions focus on all aspects of care, education, research, or organisation. In 2017, the journal began an online special article series called HeartBeat.

Education

In 2017, the Council continued to develop its Guidelines Implementation Toolkit (Be Guidelines Smart) which during 2017 included two webinars, two short educational videos and an educational workshop held at the European Heart House. This workshop was designed in a "Train the Trainers" format and included nurse participation from 21 different countries.



During 2017, the council also continued to promote its nursing clinical case gallery and held a further webinar on Patients & Family involvement in cardiovascular care.

Advocacy

CCNAP collaborates with Cardiovascular Nursing Societies throughout Europe and beyond. The Council continues to promote and support World Nursing Day on 12 May and in 2017, published a Press Release for the occasion.



Council for Cardiology Practice (CCP)

Chair: Dr. Riccardo Asteggiano, FESC, Chairman 2016 - 2018

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

Membership

2018 marked a turning point in the life of the Council with the launch of direct membership. Council members also include general cardiologists who are members of one of the national associations represented in the Council. In 2018, the Council also started a LinkedIn group for its members to facilitate networking and scientific exchanges.

Congresses

Maintaining its collaboration with other societies, the Council was present in joint sessions in Italy, Czech Republic, Portugal and Russia.

In 2017, the Council continued to contribute to the ESC Congress scientific programme with the General Cardiology Programme for physicians, technicians and general practitioners.

Education

The Council for Cardiology Practice performs surveys within the ESC to understand today's management of cardiovascular diseases as well as the knowledge of, and compliance to ESC Guidelines by cardiologists throughout Europe. In 2017, the Council released the report of its survey on Vascular Disease Management in collaboration with the ESC Working Group on Aorta & Peripheral Vascular Diseases. In 2017/2018, the Council also participated in the writing and reviewing of ESC Guidelines.

In 2017 and early 2018, the Council held its first two webinars entitled Aortic stenosis - evaluation of common to challenging cases, and Aortic stenosis in the 2017 new ESC Valvular Heart Disease Guidelines - novelties to debate.

The Council has continued to share knowledge and good practice through its E-journal for Cardiology Practice and its e-newsletter.

The E-journal keeps professionals up-to-date with recent findings and techniques. The E-journal takes the form of an article sent weekly to subscribers via email. In 2017, there are over 48,000 subscribers to the E-journal. Its success is due to the high quality of the submissions that cover a wide range of subjects from the diagnosis of cardiovascular diseases to their management, from risk-markers to devices.

Echocardiography (13 May 2014)

ESC Council Cardiology Practice

Mean gradient 42 mmHg
V. Max 4.2 m/sec
Valve area 0.9 cm²

Aorta: Valsalva 33 mm
Tubular 36 mm

LV 48 /32 mm, EF 60%



Council on Hypertension

Chair: Professor Bryan Williams, FESC, Chairperson 2016 - 2018

Aim: *The Council encourages research, teaching, communication of knowledge and participates in education, focusing on the cardiovascular aspects of hypertension.*

Membership

In March 2018, the Council on Hypertension's membership rose to over 1,200 health professionals from multiple fields. The majority of members are under 50 and consequently, the Council has begun strategies to increase its presence on social media with the creation of a Communications Officer for 2018.

Congresses

The Council was heavily involved in developing the Hypertension topic programme for ESC Congress 2017, with educational sessions, joint sessions with national and international societies of hypertension, joint sessions with ESC Constituent Bodies and abstract sessions. A permanent database for members to propose session topics, speakers and chairpersons for future hypertension sessions at ESC Congress was established.

Research

Council nucleus members have participated in the task forces and / or the reviewing panels of the following ESC Guidelines: ESC/ESVS Diagnosis and treatment of PAD, Atrial Fibrillation (in collaboration with EACTS), and Management of cardiovascular disease during pregnancy. Additionally, the Chairman of the ESC Council is also Chairman of the joint ESC/ESH Hypertension Guidelines Task Force. The Council has been active in the production of position papers and consensus documents focused on providing practical clinical information. A position paper on the management of hypertensive emergencies has been completed and submitted to the *European Heart Journal*. The most recent addition is a position paper on the Peripartum Management of Hypertension.

The Council is collaborating on two consensus documents, one on "Physical activity and exercise in the prevention and treatment of hypertension" with the European Association of Preventive Cardiology and another on "the Role of biomarkers in hypertension" led by the Working Group on Peripheral Circulation. The Council would like to engage interested members as writers and reviewers for future documents. The persons interested can apply via a form available on the ESC website.

Education

An implementation programme to facilitate wide dissemination and implementation of the joint ESC / ESH Hypertension Guidelines at local level is being defined and will be ready after the ESC congress 2018.

Advocacy

The Council has continued to develop links with hypertension societies inside and outside Europe.



Council on Cardiovascular Primary Care (CCPC)

Chair: Professor Arno Hoes, FESC, Chairperson 2016 - 2018

Aim: *To strengthen and enhance cardiovascular care in primary care (general practice, family medicine) at a European level.*

Congresses

The Council continued to contribute to the General Cardiology Programme for physicians, nurses and technicians at ESC Congress 2017.

Education

The Council has continued its work on ESC Guidelines with participation in the writing and reviewing taskforces.



Council on Stroke

Chair: Professor Petr Widimsky, FESC, Council on Stroke Chairperson 2016 - 2018

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



Membership

Membership of the Council on Stroke in March 2018 stood at more than 1,200 members. It is composed of multidisciplinary physicians and specialists including neurologists, vascular specialists, neurosurgeons, radiologists and interventional cardiologists.

Congresses

In 2017, the Council participated in Joint Sessions with the European Stroke Organisation and the European Association of Neurological Societies.

It participated in the scientific programme for ESC Congress 2017 including a joint session with the European Stroke Organisation entitled "Etiologic approach to stroke prevention and treatment".

Research

In 2017, the Council on Stroke produced a position paper entitled 'The role of cardiologists in stroke prevention & treatment' which was published in the *European Heart Journal*.

Education

In January 2018, the Council prepared its first annual meeting: the ESC Heart & Brain Workshop in Prague. The workshop was designed to stimulate multidisciplinary approach to stroke prevention and treatment and to educate cardiologists. This workshop was endorsed by the European Stroke Organisation and faculty included leading experts from different cardiology and neurological societies.

In 2017, the Council developed a webinar programme to run throughout 2018. These webinars will deal with several aspects of stroke including pathophysiology, diagnostic work-up for prevention, acute therapy and primary and secondary prevention of stroke.

In 2017-2018, the Council also contributed to ESC Guidelines.

Advocacy

The Board of the Council includes representatives from other ESC Constituent Bodies and external societies (stroke, neurological, neurosurgical, vascular surgical, neuroradiological).



Council on Valvular Heart Disease

Chair: Professor Luc Pierard, FESC Council on VHD Chairperson, 2017- 2020

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

In August 2017, the Working Group transitioned to a Council and since then has almost doubled its membership to over 1,200 members by March 2018. A large majority of the Council's membership is under 45 so the Council plans to develop its social media strategy during 2018 to attract and even greater audience of tomorrow's cardiologists.

Congresses

In 2017, the Council endorsed and was involved in developing the scientific programme for the EuroValve Congress. The Council was also involved in developing the Scientific Programme for ESC Congress 2017 other ESC sub-specialty congresses during 2017/2018.

Education

The Council has been active in the production of position papers. The most recent edition is the paper entitled 'Valvular Heart Failure' which has been submitted to the European Heart Journal for publication.

Advocacy

The Board of the Council includes representatives from other ESC Constituent Bodies and external societies.

The Council has begun discussions with the EU Regulatory Committee on the subject of Regulatory Affairs for Medical Devices. The Councils hopes to contribute to this taskforce in 2018.

The ESC has 15 Working Groups focused on the remaining sub-specialty 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, the Working Groups contribute to the ESC's overall mission by taking an active part in the ESC Congress, in organising and promoting their own symposia, courses, and meetings in specific area of expertise.



Membership

Total membership of the ESC's 15 Working Groups has risen to nearly 6,000 over the last year. Impressively, 33 percent of these are under 35 years old which is an excellent achievement, given the focus on the next generation of cardiology professionals across the ESC.

Congresses

Ten of the ESC Working Groups organised their annual meetings, attracting 3,500 international delegates, while many participated in international meetings with joint sessions in Europe, North and South America and Asia. These meetings became, year after year, the European references in their sub-specialty field of cardiology.

In 2017, The Working Group on Myocardial & Pericardial Diseases arranged its annual conference in Nyborg, Denmark welcoming over 300 delegates. The Working Group on Development Anatomy and Pathology offered nine awards (5 travel awards, 2 best oral presentation awards and 2 best poster presentation awards) during its annual meeting in Padua, Italy.

In 2018, 400 delegates attended the Working Group on Grown-Up Congenital Heart Disease congress in Münster, Germany. The Working Group on Cardiac Cellular Electrophysiology in Essen, Germany, was also well attended by 170 delegates.

Advocacy

A new ESC Working Group on Cardiovascular Regenerative and Reparative Medicine has been created to improve knowledge and to develop therapies in this field through the synergy of basic discoveries and translational clinical efforts from dedicated centres all around the world, by:

- Defining cardiovascular regeneration-based advanced therapies
- Establishing the priorities and goals of discovery and development for the next decade,
- Attaining and disseminating an umbrella agreement on a common strategy to reinforce the field.

The ESC Working Group on e-Cardiology joined the Digital e-Health Committee to take part in major decisions in the field.

Research

Collectively, the Working Groups prepared and published scientific papers on a range of topics and there was extensive collaboration with the EORP programme on the Pregnancy and Cardiac disease (ROPAC) registry and the Cardiomyopathy and Myocarditis registry.

Education

Education is a major focus of the Working Groups.

Most ESC Working Groups endorse, organise, and contribute to courses and educational programmes, such as webinars, the Clinical Trials teaching courses, the HFA Winter meeting, the Basic Science Summer School and Hands-on Courses. Other highlights included:

- The Working Group on Cardiovascular Pharmacotherapy maintained its Clinical Trial Programme and delivered three teaching workshops on methodological issues on design, conduct and interpretation of clinical trials
- The Working Group on Myocardial and Pericardial Diseases sustained its education programme using modern pedagogical approaches to improve diagnosis and treatment of heart muscles and pericardial diseases, promote understanding of the pathophysiology, and disseminate the knowledge throughout Europe
- The Working Group on Thrombosis maintained its exchange grants for leaders of centres or laboratories involved in thrombosis research. The grant enables Young Investigators to perform scientific research in thrombosis at a host institution of another ESC member country or ESC affiliated country
- The Working Group on Thrombosis and the Working Group on Aorta & Peripheral Vascular Diseases have collaborated to develop a series of three webinars on PAD and CAD
- The Working Group on Atherosclerosis and Vascular Biology set a symposium focusing on “Inflammation in Cardiovascular Disease & Immunometabolism” in the frame of the Frontier on Cardiovascular Biology Congress in Vienna
- The 15 Working Groups of the ESC are:

- Working Group on Aorta & 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 e-Cardiology
- Working Group on Coronary Pathophysiology and Microcirculation
- Working Group on Development, Anatomy and Pathology
- Working Group on Grown-up Congenital Heart Disease
- Working Group on Myocardial & Pericardial Diseases
- Working Group on Myocardial Function
- Working Group on Pulmonary Circulation & Right Ventricular Function
- Working Group on Thrombosis

ESC Member National Cardiac Societies



The National Cardiac Societies (NCS) are the founders and principle Constituent Bodies of the ESC. Their knowledge and expertise underpins all ESC activities. Fifty-six countries are represented with about two hundred different languages in fourteen time zones. It's a huge commitment to collaborate with so many nations this way and it emphasises once again that our diversity is our strength.

Strategic collaboration



Spring Summit 2018

This is the ESC's annual strategic meeting with its member National Cardiac Societies. The 2018 Spring Summit focused on major challenges for cardiology, such as: the role of Industry in Continuing Medical Education; the growing importance of social media in the professional lives of cardiologists; how to support the career progression of women in cardiology and the growing concern about cardiologist burnout. For the first time, this year's Spring Summit included a record 170 young cardiologists from 46 different countries.

Individual Leadership meetings

Discussions on common scientific and economic challenges have been top priorities on the agenda of leadership meetings held with NCS boards, along with opportunities to strengthen collaboration.

Membership

Members of our NCS are automatically part of the ESC family, representing over 95,000 individual members and 38 national young cardiologist organisations. ESC Professional Membership (launched in 2016) is designed to grow both ESC and NCS membership communities. In 2018, a joint recruitment drive was launched on digital marketing channels. This activity will continue throughout 2018.

Congress

At ESC Congress 2017, 40% of accepted abstracts were submitted by NCS members and 34% of delegates were NCS members. The scientific programme also reflected the contribution of members with 66% of chairpersons, 67% of graders and 55% of speakers coming from the NCS. Conversely, the ESC actively took part in 37 joint sessions at its member NCS annual events and welcomed members on its stand at a further 17 NCS congresses.

Research

ESC Atlas of Cardiology

More than 40 National Cardiac Societies contributed to the ESC Atlas of Cardiology which published its first paper in November 2017. The second call for data was launched to all NCS in 2018. So far 46 NCS have contributed.

EurObservational Research Programme (EORP)

Country based registries are conducted through our NCS. A total of 52 NCS are currently participating in 7 registries. In the reporting period, 52 NCS were signed up to take part in 7 registries (CICD, HF3, ACS5, AFA, AFG, VHD2, TCVT).

Education

NCS play a major role in developing continuing medical education (CME) and knowledge assessment at the ESC. In 2018, 45 National Directors of Training attended the ESC's annual Education Conference focussed on Digital Learning and the Future of Cardiologist.

NCS are also critical partners in the dissemination of the European Exam in General Cardiology (EEGC). There are now 14 countries involved in the certification and in June 2017, 348 candidates sat the examination. This is a successful collaborative initiative between NCS, ESC and the UEMS Cardiac Section.

Guidelines

The ESC National Cardiac Societies (NCS) are involved in the review process of all ESC Guidelines. An appointed National Guidelines Coordinator (NGC) in each National Cardiac Society manages the nomination of experts to review each of the ESC Guidelines, depending on the area of expertise. These NGCs come together once a year to share their experiences regarding dissemination and implementation of the ESC Guidelines on a national level. In 2017 an average of 49/56 NCSs participated in the review process. The NCS also have the opportunity to endorse, translate and distribute ESC Clinical Practice Guidelines and Pocket Guidelines with a six month exclusivity period from publication. In the 2017, 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.

Advocacy

NCS can be instrumental in advocacy activities at a national level by engaging with policy makers and EU Presidencies. In 2017/2018 the Austrian National Cardiac Society was instrumental in the ESC's successful collaboration with the Austrian Ministry of Health ahead of the Austrian Presidency of the European Union Ministerial Conference on Food and Health to take place in November of 2018.



Global Partner Activities

The ESC has European roots, but a global scope. This year, two new Affiliated Cardiac Societies were approved by the ESC Board to join the global network of the ESC: The Emirates Cardiac Society and the Kenya Cardiac Society. The ESC now counts 45 Affiliated Cardiac Societies led by the ESC Global Affairs Committee. Developing collaborative relationships with ESC Affiliated Cardiac Societies - the main professional bodies within cardiovascular medicine that are not ESC institutional members - as well as other global partners - is essential to sharing, learning and advancing the battle against cardiovascular disease.

Global Affairs committee

The ESC Global Affairs Committee was established to extend the reach of the ESC's scientific influence beyond the borders of member countries and to promote the ESC mission, reputation, and values around the world.

One of the ESC's key strategic goals, the new ESC Professional Membership scheme, is now open to all healthcare professionals with an interest in cardiology anywhere in the world. This is the first time that individuals from non-ESC member countries can benefit from ESC membership status.

Affiliated Cardiac Societies

The Global Affairs Committee focused on collaboration with the 45 ESC Affiliated Cardiac Societies. Numerous projects have been undertaken in the last 12 months, including the organisation of joint scientific sessions during the annual congresses of thirteen Affiliated Cardiac Societies, and continued collaboration with India and the development of key programmes to welcome more Indian cardiologists into the ESC Family.

Global Affairs activities also included strong partnerships with the American College of Cardiology, the American Heart Association, the World Heart Federation, and Asian Cardiology Societies including such as the Chinese Society of Cardiology, the Great Wall International Congress of Cardiology, the Asian Pacific Society of Cardiology and the Asian Federation of Cardiology.



Table 1 - Global Affairs events from April 2017 to March 2018 with ESC Faculty, ESC stand and staff presence

July 2017	Location
ESC in Singapore at the Asian Pacific Society of Cardiology (APSC) Congress	Singapore
August 2017	Location
ESC in Australia at the Cardiac Society of Australia & New Zealand (CSANZ) Congress	Perth, Australia
September 2017	Location
ESC in China @ CSC during the Chinese Society of Cardiology (CSC) Congress	Taiyuan, China
October 2017	Location
ESC in China @ GWICC during the Great Wall International Congress of Cardiology (CHF/GWICC)	Beijing, China
ESC in Argentina during the Argentine Society of Cardiology Congress	Buenos Aires, Argentina
ESC in Canada at the Canadian Cardiovascular Society Congress	Vancouver, Canada
November 2017	Location
ESC in Mexico during the Mexican Society of Cardiology (MSC) Congress	Guadalajara, Jalisco, Mexico
ESC in Brunei at the Asean Federation of Cardiology Congress (AFCC)	Brunei
ESC in Brazil during the Brazilian Society of Cardiology (BSC) Congress	Sao Paulo, Brazil
ESC in South Africa during the South African Heart Association (SA Heart) Congress	Johannesburg, South Africa
December 2017	Location
ESC in India during the Cardiological Society of India (CSI) Congress	Kolkata, India
March 2018	Location
ESC in Japan during the Japanese Circulation Society (JCS) Congress	Osaka, Japan
ESC in Arabia during the Saudi Heart Association (SHA) Congress	Riyadh, Saudi Arabia

Governance

Ethics and Oversight Committee

In 2017, the ESC put in place an Ethics and Oversight Committee. The committee has an advisory role for the ESC Management Group and Board, but ESC constituent bodies and individual members may also raise an issue with the ESC Ethics Committee.

The committee was set up to manage 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 and Oversight Committee conducts its activities in accordance with a Charter approved by the Board of the ESC. It comprises four ESC volunteers members and three (non ESC), legal and ethics experts.

ESC Audit Committee

The Audit Committee provides an oversight of financial and policy affairs by reviewing compliance with relevant policies and procedures. Particular attention is given to the assessment of risks, the management of liquid 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 affect their decisions and deliberations. The other two members are elected senior experienced ESC members, representing National Societies, Associations, Councils and Working Groups. The Audit Committee reports directly to the ESC General Assembly further strengthening their Independence within the ESC structures.

This year's report by the Audit Committee includes:

- the recommendation to approve the 2017-2018 financial statements
- the suggestion to review the overall governance, now underway with the recent approval by the Board of the review of the ESC Statutes
- the recommendation to finalize the Declaration of Interest policy following a consensus on thresholds
- the suggestion to initiate a review for the long-term use of available reserves and funds
- the recommendation to finalize the conclusions of the Compensation Task Force

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 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 2018 - Euros

	31/03/2016	31/03/2017	31/03/2018
Turn over	45,907,604	50,783,301	64,986,347
Other operating income	6,805,392	8,168,481	7,003,856
Consumables	-51,567	-41,904	-84,523
Compensations and wages	-12,405,528	-13,407,681	-14,329,960
Others charges	-36,573,791	-43,482,833	-53,824,679
Fiscal Charges	-708,692	-968,377	-1,047,935
Depreciation and provisions	-918,155	-198,877	-577,693
OPERATING PROFIT	2,055,264	852,109	2,125,413
Financial Result	756,898	496,698	439,887
RESULT BEFORE TAX	2,812,162	1,348,808	2,565,300
Extraordinary items	1,680	88,952	-23,260
Corporate taxes	-903,172	-352,382	-793,458
RESULT AFTER TAX	1,910,670	1,085,377	1,748,582
Notes : Operating income and expenses include sales and purchases of hotel rooms for	K Euros 0	K Euros 8,595	K Euros 13,828

ESC GROUP BALANCE SHEET CONSOLIDATED

31 March 2018 - Euros

ASSETS	31/03/16	31/03/17	31/03/18
Intangible assets	266,038	222,795	192,626
Tangible assets	4,349,534	4,355,870	4,423,899
Financial Assets	50,515	59,034	52,895
TOTAL FIXED ASSETS AND INVESTMENTS	4,666,087	4,637,698	4,669,419
Deffered taxation	113,380	150,436	155,131
Inventories and WIP	1,647,175	2,606,188	3,189,764
Accounts receivable/Suppliers downpayments	18,525,047	16,648,684	13,890,283
Fiscal and social debtors	1,318,391	2,173,169	1,545,300
Other current assets	6,787,696	9,748,009	3,402,333
Cash and Cash equivalents	50,656,383	55,655,758	61,136,049
TOTAL CURRENT ASSETS	79,048,074	86,982,243	83,318,860
TOTAL ASSETS	83,714,161	91,619,941	87,988,279
LIABILITIES	31/03/16	31/03/17	31/03/18
Non refundable funds	4,849,260	4,849,260	4,849,260
Investments reserves	35,053,255	36,963,926	38,049,303
Surplus for the year	1,910,670	1,085,377	1,748,582
TOTAL NET ASSETS	41,813,185	42,898,563	44,647,144
Deffered taxation	46,791	23,841	47,481
Provisions for liabilities and charges	338,569	191,675	192,637
Financial long term debt	0	0	0
Accounts payable	4,564,541	9,121,368	4,586,077
Fiscal and social creditors	5,072,605	4,291,332	5,141,486
Other Creditors	31,878,469	35,093,163	33,373,454
TOTAL LIABILITIES	41,900,976	48,721,378	43,341,134
TOTAL LIABILITIES AND NET ASSETS	83,714,161	91,619,941	87,988,279
WORKING CAPITAL	37,147,098	38,260,865	39,977,726
WORKING CAPITAL REQUIREMENTS	13,509,285	17,394,893	21,158,323
CASH AND CASH EQUIVALENTS	50,656,382	55,655,758	61,136,049

Commentaries on ESC group consolidated accounts:

Despite a difficult economic and regulatory environment, the results reported by the European Society of Cardiology group for the fiscal year 2017-2018 show a result before tax of €+2.6 million, which compares favourably to the budget of €-1.2 million.

Net result after tax is €+1.7 million.

Total ESC group revenue (excluding hotel room sales) was €58.2 million. This is higher than the last comparable year with EHRA Europace Congress (FY2015-2016) €52.7 million.

Operating result:

As mentioned in the ESC business reporting an €+2,125k 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.
 - During the year, €840k were spent on related activities and four new Guidelines were approved and released
 - Education in Cardiology: the department is now focused on providing services regarding distance learning , webinars, MCQs and courses

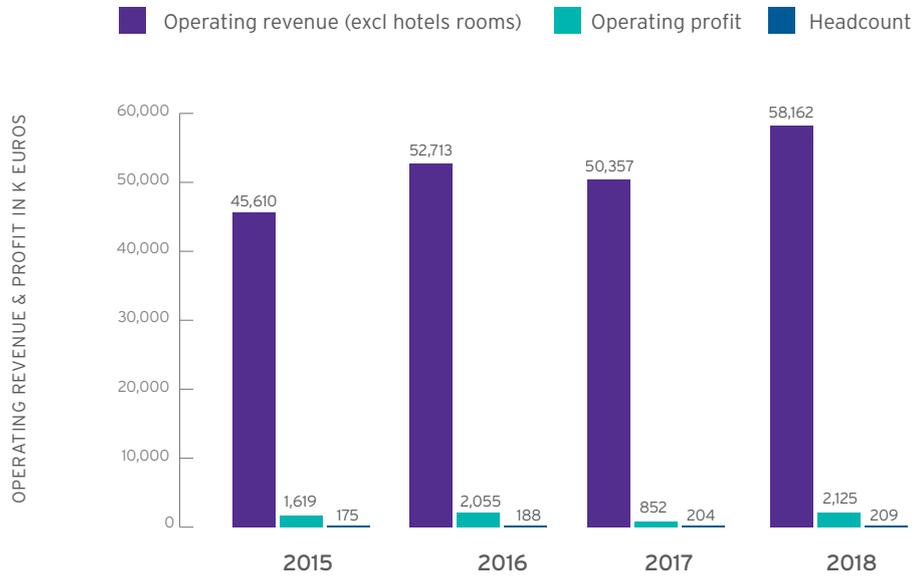
The ESC has continued its investment in the development of its online educational platform and produced new multiple choice questions (MCQs) and general cardiology webinars. In addition, the ESC and its subspecialty communities have continued to invest in the development of educational materials.

The ESC has continued its collaboration with European Universities and the implementation of post-graduate courses.

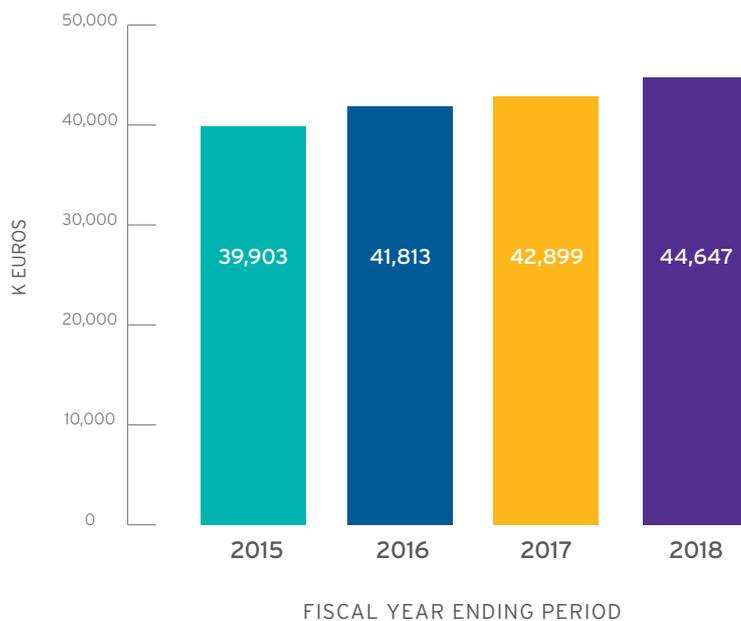
- **EORP (Registries)** - The multi-registries and multi-sponsors programme (EORP) started in October 2009 and has continued its implementation. Sixteen registries are currently on-going and will provide the scientific community significant insight into Clinical Practice Guideline adherence and where investment in further education is required. Based on the signed sponsoring agreements and the ongoing discussions with potential sponsors, and also taking into account an extension of the programme scope, the project is considered break-even. Revenue and costs have been assessed at €2,724k during the current fiscal year for the EORP main programme and €737k for the prevention programme (Euroaspire).
- **Journals and publishing activities** - The ESC family of journals and publishing activities have generated a total contribution of €2,452k and have increased their international coverage. This year, the *European Heart Journal* (EHJ) remains the major contributor with a €1,043k contribution. EHJ achieved an impact factor with a score of 20.213 (compared to 15.064 in 2016). Regarding book publishing, sales of Pocket Guidelines generated revenue of €420k.

-
- **Congresses** - Nine congresses were organised this fiscal year: ESC Congress 2017, Heart Failure 2017, EHRA EUROPACE - CARDIOSTIM 2017, EuroEcho-Imaging 2017, Acute CVD Care 2017, EuroHeartCare 2017, EuroPrevent 2017, ICNC 2017 and EHRA Congress 2018. ESC Congress 2017 in Barcelona was a significant scientific and financial success with 10,804 abstracts submitted (acceptance rate 42%), 31,705 participants and 152 countries represented.
 - **Board and committees** - Board and committee expenses at €-1,237k
A travel policy for volunteers' travels has been implemented together with the cost containment principles in order to adapt the association with its more and more challenging environment.
 - **Associations** - The 6 Associations and the 15 Working Groups have continued the huge development of their activities and projects, participating in the improvement of the overall ESC position. They have generated a €4,486k contribution during the reporting period. Direct support to Associations and Working Groups activities were support by ESC for a total of €380k. This amount does not include the allocation of support functions (Human Resources, Finance, IT...) that amounts to €2,715k.
 - **Financial investments** - The Board maintained the ESC financial investment policy that is characterised by a prudent, capital conservation profile. Cash reserves 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, Profit and Headcount



Growth in 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 8% of the overall income.

INDUSTRY RELATED INCOME		
Name of company/funder	Amount of income - Euros	% of overall organisation's income
Congresses	40,686,883	56,5%
Others seminars	1,433,535	2,0%
Studies and registers	2,720,172	3,8%
Publications	1,146,919	1,6%
Journal royalties	3,496,251	4,9%
Miscellaneous: sponsoring for CRT, sub-specialties fellowship training...	4,701,557	6,5%
Donations	142,731	0,2%
SUBTOTAL:	54,328,049	75,5%

NON-INDUSTRY RELATED INCOME		
Source of funding	Amount of income - Euros	% of overall organisation's income
Congresses	12,945,174	18,0%
Membership fees	2,357,658	3,3%
Others seminars	1,004,460	1,4%
Publications	317,459	0,4%
Others	1,037,404	1,4%
SUBTOTAL:	17,662,154	24,5%
TOTAL:	71,990,203	100%

ESC FINANCIAL RESULTS

By division (ESC reporting) - Euros

Description	FY 2017-2018 ACTUAL	FY 2018-2019 BUDGET
INCOME :		
CONGRESSES & MEETINGS (Before transfers)	39,985,011	34,543,900
EDUCATION IN CARDIOLOGY	150,899	1,803,598
EUROOBSERVATIONAL RESEARCH PROG	2,982,901	7,464,129
RESEARCH	417,318	168,400
PRACTICE GUIDELINES	82,500	137,500
JOURNALS & PUBLICATIONS (Before transfers)	4,214,942	4,124,761
ADVOCACY	1,022,731	1,076,528
MEMBERSHIP	2,047,339	2,503,242
EUROPEAN HEART AGENCY & ACADEMY	436,919	643,606
BOARD & COMMITTEES	2,104	0
COMMUNICATION, MARKETING & PRESS	28,715	30,000
MGT / FINANCE / HR / OFFICES	4,435	7,000
INDUSTRY RELATIONS	0	0
TECHNOLOGY & BUSINESS SERVICES	0	0
SUB-SPECIALTY CENTER (Before Congress & Journals transfers)	5,982,474	6,511,187
OPERATING INCOME	57,358,287	59,013,851
EXPENSE :		
CONGRESSES & MEETINGS (Before transfers)	-23,182,152	-20,242,572
EDUCATION IN CARDIOLOGY	-1,381,269	-2,756,366
EUROOBSERVATIONAL RESEARCH PROG	-2,228,097	-6,570,311
RESEARCH	-1,043,711	-675,360
PRACTICE GUIDELINES	-922,343	-942,635
JOURNALS & PUBLICATIONS (Before transfers)	-1,762,780	-1,935,580
ADVOCACY	-945,782	-1,382,057
MEMBERSHIP	-1,933,356	-2,348,029
EUROPEAN HEART AGENCY & ACADEMY	-1,297,498	-1,502,557
BOARD & COMMITTEES	-1,236,555	-1,291,420
COMMUNICATION, MARKETING & PRESS	-2,067,681	-2,346,471
MGT / FINANCE / HR / OFFICES	-5,014,456	-4,934,996
INDUSTRY RELATIONS	-1,180,269	-1,566,463
TECHNOLOGY & BUSINESS SERVICES	-3,189,328	-3,275,070
SUB-SPECIALTY CENTER (Before Congress & Journals transfers)	-7,847,598	-9,544,296
OPERATING EXPENSE	-55,232,874	-61,314,183

ESC FINANCIAL RESULTS

By division (ESC reporting) - Euros

Description	FY 2017-2018 ACTUAL	FY 2018-2019 BUDGET
RESULT :		
CONGRESSES & MEETINGS (Before transfers)	16,802,859	14,301,328
EDUCATION IN CARDIOLOGY	-1,230,370	-952,768
EUROOBSERVATIONAL RESEARCH PROG	754,804	893,818
RESEARCH	-626,393	-506,960
PRACTICE GUIDELINES	-839,843	-805,135
JOURNALS & PUBLICATIONS (Before transfers)	2,452,161	2,189,182
ADVOCACY	76,950	-305,529
MEMBERSHIP	113,983	155,213
EUROPEAN HEART AGENCY GENERAL & COUNCIL	-860,579	-858,951
BOARD & COMMITTEES	-1,234,451	-1,291,420
COMMUNICATION, MARKETING & PRESS	-2,038,966	-2,316,471
MGT / FINANCE / HR / OFFICES	-5,010,021	-4,927,996
INDUSTRY RELATIONS	-1,180,269	-1,566,463
TECHNOLOGY & BUSINESS SERVICES	-3,189,328	-3,275,070
SUB-SPECIALTY CENTER (Before Congress & Journals transfers)	-1,865,123	-3,033,109
OPERATING RESULT	2,125,413	-2,300,332
FINANCIAL INCOME	731,440	544,000
FINANCIAL EXPENSES	-291,553	-180,000
FINANCIAL RESULT	439,887	364,000
RESULT before Tax	2,565,300	-1,936,332
EXTRAORDINARY ITEMS	-23,260	
PROFIT SHARING	0	
CORPORATE TAX	-793,458	
DEFERRED TAX	0	
RESULT after Tax	1,748,582	-1,936,332

Auditors' Report

Year ended 31 March 2018

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 consolidated financial statements of S.E.C. for the year ended March 31, 2018.

In our opinion, the consolidated financial statements give a true and fair view of the assets and liabilities and of the financial position of the Group as at March 31, 2018 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, 2017 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 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 financial statements.

Accounting principles

Paragraph VI.B.2 of 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 have checked the appropriateness of the accounting methods described above and the information given in this note to the financial statements, and we made sure of their correct implementation.

Accounting estimates

Your Association sets aside provisions to cover contingencies as described in paragraph V of note "Notes concerning liabilities / Provisions" to the consolidated financial statements. As part of our assessment of these estimates, we have verified the reasonableness of the assumptions adopted and the resulting evaluations.

Verification of the Information Pertaining to the Group Presented in the Management Report

As required by law we have also verified in accordance with professional standards applicable in France the information pertaining to the Group presented in the Board of Directors' management report.

We have no matters to report as to its fair presentation and its consistency with the consolidated 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 French accounting principles 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 Association'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 Association 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 Association or the quality of management of the affairs of the Association. 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 Association'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 Association 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, July 13, 2018

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.



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