

The heart failure specialists of tomorrow: a network for young cardiovascular scientists and clinicians

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Abstract

The “Heart failure specialists of Tomorrow” (HoT) group gathers young researchers, physicians, basic scientists, nurses and many other professions under the auspices of the Heart Failure Association of the European Society of Cardiology. After its foundation in 2014, it has quickly grown to a large group of currently 925 members. Membership in this growing community offers many advantages during, before, and after the ‘Heart Failure and World Congress on Acute Heart Failure’. These include: eligibility to receive travel grants, participation in moderated poster sessions and young researcher and clinical case sessions, the HoT walk, the career café, access to the networking opportunities, and interaction with a large and cohesive international community that constantly seeks multinational collaborations.

Keywords Heart failure specialists of tomorrow; Heart failure; Network

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Introduction

Heart failure (HF) represents a great challenge for the healthcare system^{1,2}, currently affecting more than 26 million people worldwide³. It is a complex syndrome with various aetiologies and different clinical presentations. Staying up-to-

date on the most appropriate diagnostic strategies and risk stratification tools^{4,5}, as well as a comprehensive assessment of the associated comorbidities are crucial for the successful management of HF patients.^{6,7} HF management should include a close collaboration between members of a multidisciplinary team combined with meaningful interaction with

patient's families and other health care providers.⁸ Despite considerable progress in treatment efficacy, HF patients often require repeated hospitalisations and the overall cost of heart failure care is high.⁹ It is therefore crucial to educate and train young physicians, nurses, scientists, physiotherapists and other healthcare professionals on how to best treat patients with such a complex disease^{10,11}. Hence, during the "National Heart Failure Societies Summit 2014" a platform for young people that work in the field of HF was created and named the "Heart failure specialists of Tomorrow" (HoT). In five years, it has become a large community of young investigators, researchers, nurses and scientists keen on learning new insights and finding new solutions for the treatment and management of HF. The Heart Failure Association (HFA) very much recognizes the importance of the HoT contribution and therefore, generally, every HFA committee/study group also has one HoT representative.

Heart failure specialists of tomorrow

The Heart failure specialists of Tomorrow (HoT) have been established within the HFA in 2014 to include young professionals interested in developing their careers in clinical and research activities in HF. Since 2014, under the supervision of Alexandre Mebazaa and Ewa Jankowska, the HoT community has been constantly growing (*Figure 1*). Most of the 925 HoT members live in Europe (79%), but there are also members joining from other continents (*Figure 2*). 38 countries from Europe, Asia, America, and Africa have a national HoT representative group and these numbers are still growing. Each country is represented by a "National HoT Representative", serving as a link between the HoT nucleus and the individual HoT members in the respective country. Most HoT members are physicians (87%) followed by scientists and nurses (each 7%, *Figure 2*). Many HoT members are active reviewers of manuscripts from the 'European Journal of Heart Failure' and 'ESC Heart Failure' and participate in strategic initiatives of the HFA like the HFA ATLAS¹² and Heart Failure Registry¹³.

In order to become a HoT member, 2 mandatory criteria need to be fulfilled. First, the candidate needs to be a member of the HFA (regular membership is free; silver & gold memberships have markedly reduced fees for HoT members). Secondly, the candidate has to be in professional training (cardiologist, basic researcher, physiotherapist, nurse or other allied professions), a student aiming to graduate in any of these professions, or ≤ 40 years old. Currently, two-thirds of HoT members are between 30 and 39 years of age (*Figure 2*). Once HoT members are older than 40 years and their training has finished, they become part of the "HoT alumni" group. Alumni maintain their ability to network and their chance to interact, encourage and help other HoT

group members to thrive in their areas of expertise. To become a member of the HoT community the dedicated "Association Joining Form" must be completed in the "Membership" section of the ESC webpage profile.¹⁴ Being a member of the HoT group is indeed a unique opportunity to develop and structure a specific HF track of care all over Europe, and offers many advantages to do so.

Travel grants to the HFA congress

We have noticed in the past that many HoT members struggle to attend the "Heart Failure and World Congress on Acute Heart Failure" due to lack of funding support. Fortunately, the HFA was able to allocate 150 travel grants for the 2018 meeting in Vienna. Mandatory requirements were: being a member of the HoT initiative and having submitted an abstract to the congress as the first author. With the aim to support those who have a lower income and fewer opportunities to apply for financial support, people of younger age, from low- and middle-income countries and non-physicians were prioritized. All the recipients of the grants gained free admission to the congress and an additional €400 for travel expenses. We are delighted to report that all grant recipients in 2018 attended the congress in Vienna, Austria. For the 2019 meeting in Athens, Greece, the HFA was able to further expand the support to 200 abstract submitters.

Moderated poster sessions

To encourage abstract submission and interaction between researchers, the best abstracts submitted to the "Heart Failure and World Congress on Acute Heart Failure 2018" were discussed and presented in the "Agora Forum". These special sessions are very interactive and well accepted by the audience. Therefore, this style of poster session was repeated during the 2019 HFA congress in Athens.

HoT walk

After the first "HoT walk" in Florence in 2016, it has become an annual tradition on Monday, taking place in parallel to the Heart Failure congress. It is a great opportunity for nurses, researchers and physicians to meet and interact in an informal environment. In addition, a lot of patients, relatives and locals attend the walk, which is surrounded by educational public information on HF. For example, the 2017 edition, which was held in Paris, included a one hour session on "how to practise cardiopulmonary resuscitation" on mannequin simulators, for both patients and healthcare workers, before the walk started. It was well received and gave all the participants

the chance to improve their skills in a real-world scenario. In 2018, over 100 people came and explored the city of Vienna with the HoT group, under the supervision of local guides. In 2019, the HoT walk took place in the historical center of Athens near the Acropolis, with the participation of patients, citizens, cardiology societies and of course congress participants, to emphasize the role of exercise for cardiovascular health and to promote interaction.

HoT on social media

Social media is an important means of communication for sharing information, experiences and opinions. To keep people connected, the HoT community has developed a Facebook page.¹⁵ All HoT members can be connected with scientists, colleagues, and other researchers sharing the same interest. The Facebook page “Heart Failure Specialists of Tomorrow” is approaching 3,000 members, where members can get regular updates on grants, congresses, webinars, review new or important HF publications, post and comment

on difficult clinical cases and answer questions in quiz like posts.

Opportunities for young researchers in the field of heart failure

Two other great opportunities are offered to young researchers in HF that are in line with the HoT group and HFA activities:

- The Postgraduate Course in Heart Failure (PCHF) of the HFA and the European Heart Academy, in collaboration with the Zurich University,
- The “Clinical Trialists Summer School”.

Both are tremendous opportunities to learn from experts in the field, to interact and create research networks. The PCHF course is a two-year program with 160 hours of lectures, interactive sessions, workshops, live case seminars and 140 hours of self-study. The program is based on the HF specialist curriculum by the HFA of the ESC.¹⁶ The course is

Figure 1 HoT Membership 2014–2019.

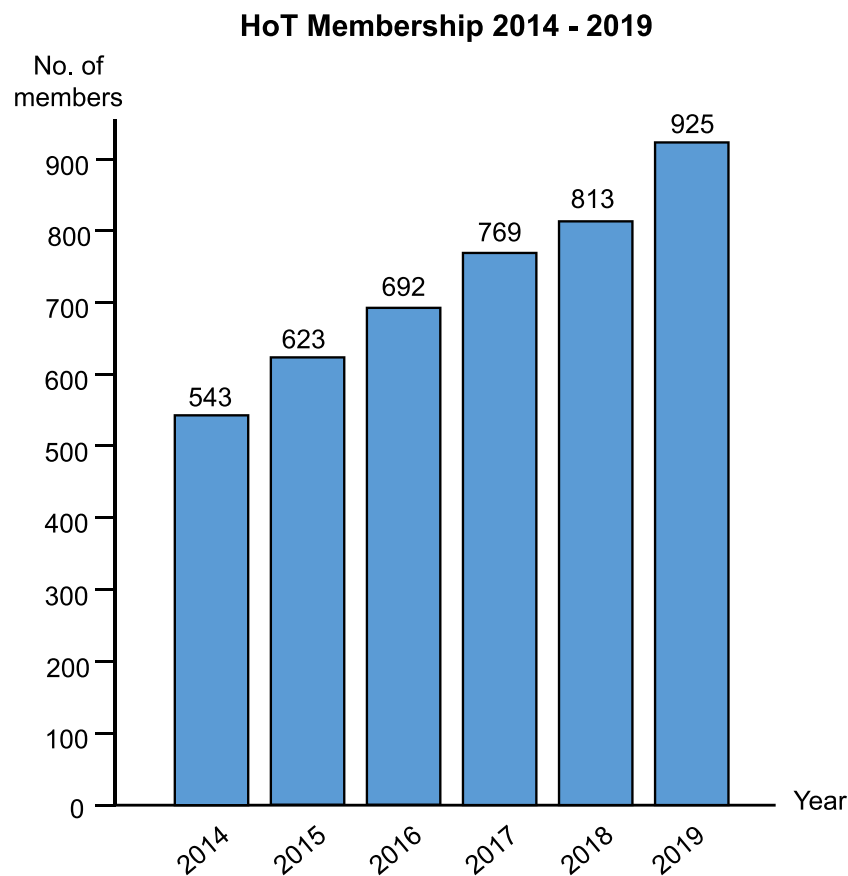
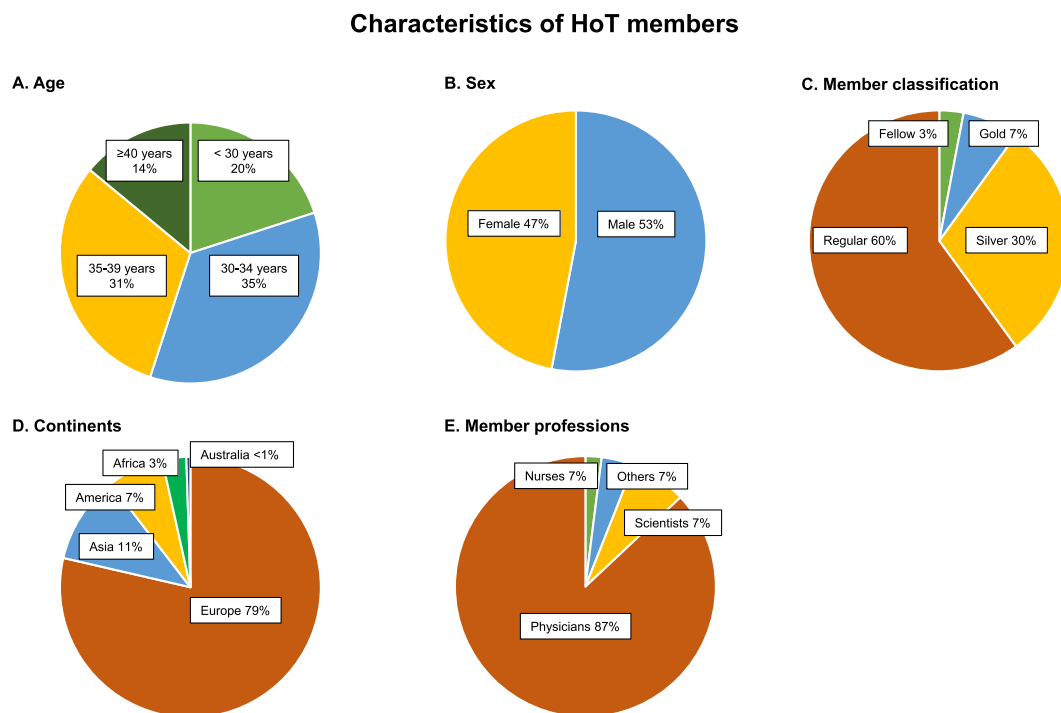


Figure 2 Characteristics of HoT members.



divided into 8 three-day modules, each one being chaired by an internationally recognized expert in HF, followed by an examination. Successful participants will obtain a Certificate of Advanced Studies in HF endorsed by the European Heart Academy of the ESC.

For young HF researchers interested in clinical trials, the “Clinical Trialists Summer School” offers an intensive teaching experience with world renowned clinical HF trialists in the faculty together with an expert statistician team. Young clinicians attend lectures and workshops to improve their skills on how to initiate and conduct a clinical trial and how to knowledgeably interpret the results of the published trials. Each theoretical lecture is followed by an interactive workshop in which the participants are divided into small groups focusing on specific topics that are later presented to the rest of the class. Lastly, the experts in the field comment on each presentation and give their personal and unbiased feedback.

During the HFA congress, professionals specializing in HF can obtain the “HFA Heart Failure Certification”¹⁷. It is a three-hour written test in English with 100 multiple choice questions. The questions are based on the HF specialist curriculum by the HFA of the ESC¹⁶. The certificate is intended for candidates that have completed their general cardiology training in their own country or those who are in their last year of training in cardiology.

Other career opportunities include becoming a fellow of the HFA (FHFA).¹⁸ In the application process, the applicant

needs to show their excellence in HF in at least one of the three fields: ‘clinical care’, ‘teaching and training’, or ‘research at national and/or international level’ and be a gold member of the HFA. Furthermore, the nominee should be proposed by the HF National Society President. Major benefits additional to those of HFA gold members include the right to use the title FHFA, a FHFA certificate, a special rate for the HFA congress, and print copies of the European Journal of Heart Failure.

Conclusions

The HoT initiative has quickly grown into a large network for young researchers in HF. Through our collaboration, we are able to connect with each other quickly and efficiently and coordinate joint projects. We are extremely delighted that the HoT initiative plays a valuable role before, during, and after the ‘Heart Failure & World Congress on Acute Heart Failure.’ The concept of forming a young alliance has been well received by the scientific community. The Heart failure specialists of Tomorrow intend to play an active and important role in HFA activities: participating in registries, research projects and other initiatives to promote knowledge and research. Its key aim is to improve the care of HF patients.

Conflict of interest

None declared.

References

- Mentzer G, Hsich EM. Heart Failure with Reduced Ejection Fraction in Women: Epidemiology, Outcomes, and Treatment. *Heart Fail Clin* 2019; **15**: 19–27.
- Khan H, Anker SD, Januzzi JL, McGuire DK, Sattar N, Woerle HJ, Butler J. Heart Failure Epidemiology in Patients With Diabetes Mellitus Without Coronary Heart Disease. *J Card Fail* 2019; **25**: 78–86.
- Savarese G, Lund LH. Global Public Health Burden of Heart Failure. *Card Fail Rev* 2017; **3**: 7–11.
- Seferovic PM, Ponikowski P, Anker SD, Bauersachs J, Chioncel O, Cleland JGF, de Boer RA, Drexel H, Ben Gal T, Hill L, Jaarsma T, Jankowska EA, Anker MS, Lainscak M, Lewis BS, McDonagh T, Metra M, Milicic D, Mullens W, Piepoli MF, Rosano G, Ruschitzka F, Volterrani M, Voors AA, Filippatos G, Coats AJS. Clinical practice update on heart failure 2019: pharmacotherapy, procedures, devices and patient management. An expert consensus meeting report of the Heart Failure Association of the European Society of Cardiology. *Eur J Heart Fail* 2019; **21**: 1169–1186.
- Adams L, Noutsias M, Bigalke B, Makowski MR. Magnetic resonance imaging in heart failure, including coronary imaging: numbers, facts, and challenges. *ESC Heart Fail* 2018; **5**: 3–8.
- Čelutkienė J, Plymen CM, Flachskampf FA, de Boer RA, Grapsa J, Manka R, Anderson L, Garbi M, Barberis V, Filardi PP, Gargiulo P, Zamorano JL, Lainscak M, Seferovic P, Ruschitzka F, Rosano GM, Nihoyannopoulos P. Innovative imaging methods in heart failure: a shifting paradigm in cardiac assessment. Position statement on behalf of the Heart Failure Association of the European Society of Cardiology. *Eur J Heart Fail* 2018; **20**: 1615–1633.
- Czepluch FS, Wollnik B, Hasenfuß G. Genetic determinants of heart failure: facts and numbers. *ESC Heart Fail* 2018; **5**: 211–217.
- Kreusser MM, Tschierschke R, Beckendorf J, Baxmann T, Frankenstein L, Dösch AO, Schultz J-H, Giannitsis E, Pleger ST, Ruhparwar A, Karck M, Katus HA, Raak PW. The need for dedicated advanced heart failure units to optimize heart failure care: impact of optimized advanced heart failure unit care on heart transplant outcome in high-risk patients. *ESC Heart Fail* 2018; **5**: 1108–1117.
- Gupta A, Fonarow GC. The Hospital Readmissions Reduction Program-learning from failure of a healthcare policy. *Eur J Heart Fail* 2018; **20**: 1169–1174.
- Cattadori G, Segurini C, Picozzi A, Padeletti L, Anzà C. Exercise and heart failure: an update. *ESC Heart Fail* 2018; **5**: 222–232.
- Campbell RT, Petrie MC, Jackson CE, Jhund PS, Wright A, Gardner RS, Sonecki P, Pozzi A, McSkimming P, McConnachie A, Finlay F, Davidson P, Denvir MA, Johnson MJ, Hogg KJ, McMurray JJV. Which patients with heart failure should receive specialist palliative care? *Eur J Heart Fail* 2018; **20**: 1338–1347.
- [https://www.escardio.org/Sub-specialty-communities/Heart-Failure-Association-of-the-ESC-\(HFA\)/Research-and-Publications/hfa-atlas](https://www.escardio.org/Sub-specialty-communities/Heart-Failure-Association-of-the-ESC-(HFA)/Research-and-Publications/hfa-atlas) (accessed on 31st January 2020).
- <https://www.escardio.org/Research/Registries-&-surveys/Observational-research-programme/heart-failure-iii-registry> (accessed on 31st January 2020).
- <https://www.escardio.org/The-ESC/ESC-Young-Community/Heart-failure-specialists-Of-Tomorrow> (accessed on 31st January 2020).
- <https://www.facebook.com/groups/1204200246391489/> (accessed on 31st January 2020).
- McDonagh TA, Gardner RS, Lainscak M, Nielsen OW, Parissis J, Filippatos G, Anker SD. Heart failure association of the European society of cardiology specialist heart failure curriculum. *Eur J Heart Fail* 2014; **16**: 151–162.
- <https://www.escardio.org/Education/Career-Development/Certification/Heart-Failure> (accessed on 31st January 2020).
- [https://www.escardio.org/Sub-specialty-communities/Heart-Failure-Association-of-the-ESC-\(HFA\)/Membership-and-Communities/Fellows-of-the-HFA](https://www.escardio.org/Sub-specialty-communities/Heart-Failure-Association-of-the-ESC-(HFA)/Membership-and-Communities/Fellows-of-the-HFA) (accessed on 31st January 2020).