

# Curriculum Vitae Cecilia Linde

---



## Place and Date of Birth

Stockholm Sweden

## Present Position and Address

- Professor of Cardiology, Karolinska Institutet
- and Karolinska University Hospital
- Norrbacka S1:02 FoU Heart Vascular and Neurology Theme
- 171 76 Stockholm, Sweden

## Training and Education

- Specialist in Internal Medicine, Stockholm Sweden. 1986
- Specialist in Cardiology Thoracic Clinics Karolinska Hospital 1988
- PhD -thesis 1992. "Acute and long- term effects of atrioventricular synchronization in cardiac pacing".

## Post Graduate Degrees

- Associate Professor 1997
- Full Professor in Cardiology at Karolinska Institutet, 2007

## European Society of Cardiology Activities

- Secretary ESC working group of cardiac pacing 1998
- EHRA Board member 2003-2005 in transition from WGs of pacing and arrhythmia to EHRA association
- Member of the EHRA accreditation committee 2011-2013
- Member of the EHRA committee for women 2013-2015
- EHRA representative in EU task force on Device Specific Vigilance Guidance for Cardiac Implantable Electronic Devices including pacemakers DSVG, 2016- 2018
- Member of Task Force for developing the MSc. in Clinical Trial programme 2017-2018
- Member of device committee of HFA 2016-2020
- Treasurer to EHRA 2018
- Councilor of the ESC Board 2016-2018 responsible for Women in ESC.

- Vice President of ESC 2018-2020 responsible for Working -groups, Councils, Membership, Women in ESC and the Young

## **Guidelines/Congress/Education**

### **ESC Guidelines**

2005 Guidelines for the diagnosis and treatment of chronic heart failure: executive summary (update 2005): The Task Force for the Diagnosis and Treatment of Chronic Heart Failure of the European Society of Cardiology.

2007 Guidelines for cardiac pacing and cardiac resynchronization therapy: The Task Force for Cardiac Pacing and Cardiac Resynchronization Therapy of the European Society of Cardiology. Developed in collaboration with the EHRA

2010 Focused Update of ESC Guidelines on device therapy in heart failure: an update of the 2008 ESC Guidelines for the diagnosis and treatment of acute and chronic heart failure and the 2007 ESC Guidelines for cardiac and resynchronization therapy. Developed with the special contribution of the Heart Failure Association and the European Heart Rhythm Association.

2013 ESC Guidelines on cardiac pacing and cardiac resynchronization therapy: the Task Force on cardiac pacing and resynchronization therapy of the European Society of Cardiology (ESC). Developed in collaboration with the European Heart Rhythm Association (EHRA)

2016 ESC Guidelines for the Diagnosis and Treatment of Acute and Chronic Heart Failure

2019 ESC Guidelines on diabetes, pre-diabetes, and cardiovascular diseases developed in collaboration with the EASD as document reviewer.

2021 ESC guidelines on cardiac pacing and cardiac resynchronization therapy. Reviewer coordinator.

### **Consensus documents and position papers**

2012 EHRA/HRS expert consensus statement on cardiac resynchronization therapy in heart failure: implantation and follow-up, recommendations and management.'

2015. Chronic kidney disease in patients with cardiac rhythm disturbances or implantable electrical devices: Clinical significance and implications for decision making-a position paper of the European Heart Rhythm Association endorsed by the Heart Rhythm Society and the Asia Pacific Heart Rhythm Society

2016 European Heart Rhythm Association/Heart Failure Association joint consensus document on arrhythmia in heart failure, endorsed by the Heart Rhythm Society and the Asia Pacific Heart Rhythm Society

2018 Sex differences in cardiac arrhythmia: a consensus document of the European Heart Rhythm Association, endorsed by the Heart Rhythm Society and Asia Pacific Heart Rhythm Society

### **Congresses**

CPC member of the ESC Congress programme committee 2006- 2007, 2015 -2016.

CPC topic chair for arrhythmia of the ESC Congress programme committee 2018-2020

Highlight session presenter at ESC Congress for Arrhythmia 2007, 2008, 2015 and 2016

Scientific program committee chair for Europace /Cardiostim 2014, 2015

### **Education**

I was the initiator and Director of the first EHRA exam in cardiac pacing. First exams were in Prague 2005, Barcelona in 2006 and Lisbon in 2007.

Member of the EHRA accreditation committee between the years 2011-2013.

## Research

### International Scientific Committee Participation

- Co PI of the MUSTIC trial the first international multicenter RCT on CRT in heart failure
- PI of the REVERSE study the first international multicenter on CRT in mild to moderate heart failure
- PI for the MIRACLE EF study on CRT in moderately low LVEF
- Steering committee of the EHRA/HFA initiated CRT Survey I 2008
- National PI of ARTESiA study 2015-ongoing
- Co PI of the KaREN study on epidemiology of heart failure with preserved LVEF.
- PI of the Stockholm PREFERS study programs 2016- ongoing
- Co PI of the EHRA /HFA initiated CRT Survey II 2018
- Member of Heart Rhythm Society (HRS) research committee 2016-2018
- Chair of DSMB of the BÍOPACE study
- Member of DSMB CHART study
- Member of the DSMB of the ABC trial 2018-ongoing

### Editorial Boards

- PACE now merged with Journal of Cardiac Electrophysiology (*JCE*)
- Europace
- Cardiac Failure
- Current Cardiovascular risk reports
- Executive Editor for heart failure for European Heart Journal 2020- ongoing

## Fellowships / Honors

- FESC 1996
- Doctor Honoris Causa University of Rennes, France 2017

## Honorary Memberships

- French Cardiac Society 2010
- Hungarian Society of Cardiology 2018

## Major Publications

Cazeau S, **Linde C** et al. Clinical effects of multisite biventricular stimulation in heart failure patients without conventional indication for cardiac pacing. *New Engl J Med* 2001;334: 873-880.

**Linde CM** et al. Long-term effects of Cardiac resynchronization reverses remodeling in asymptomatic and mildly symptomatic heart failure patients. 5-year results from the REsynchronization reverses Remodeling in Systolic left vEntricular dysfunction (REVERSE) study. *Eur Heart J* 2013; 33:2592-2599

**Linde CM** et al. Impact of cardiac resynchronization therapy in mild left ventricular systolic dysfunction. Results from the REVERSE study. *Circulation Heart Failure* 2013;6:1180-1189.

Cleland JG, Abraham WT, **Linde C**, et al. An individual patient meta-analysis of five randomized trials assessing the effects of cardiac resynchronization therapy on morbidity and mortality in patients with symptomatic heart failure. *Eur Heart J* 2013; 46:3547-56.

**Linde CM**, et al. Long-term effects of Cardiac resynchronization reverses remodeling in asymptomatic and mildly symptomatic heart failure patients. 5-year results from the REsynchronization reverses Remodeling in Systolic left vEntricular dysfunction (REVERSE) study. *Eur Heart J* 2013; 33:2592-2599

St John Sutton M, **Linde C**, et al. Left Ventricular Architecture, Long-term Reverse Remodeling, and Clinical Outcome in Mild Heart Failure with Cardiac Resynchronization: Results from the REVERSE trial. *J Am Coll Cardiol Heart Fail.* 2017 Mar; 5(3):169-178.

**Linde C**, et al. Gender and utilization of cardiac resynchronization therapy, and prognostic impact of QRS prolongation and left bundle branch block in heart failure. *Europace* 2015; 17:424-431.

**Linde C**, et al The design of the PREFERS Stockholm heart failure study (Preserved and Reduced Ejection Fraction Epidemiological Regional Study) in Stockholm count if 2.1 mill inhabitants. *Eur J Heart Fail J* 2016 Oct;18(10):1287-1297.

**Linde C**, et al. Short-term predictors of clinical response to cardiac resynchronization therapy: Results from an individual patient meta-analysis of five randomized trials. *Eur J Heart Fail.* 2017 Aug;19(8):1056-1063.

Lund LH, **Linde C**. Demographic and organizational but not clinical factors are associated with underutilization of cardiac resynchronization therapy *Eur J Heart Fail.* 2017 Oct;19(10):1270-1279

**Linde C**, et al: The Interaction of Sex, Height, and QRS duration on the Effects of Cardiac Resynchronization Therapy on Morbidity and Mortality: An Individual-Patient Data Meta-analysis. Results from a case based meta-analysis. *Eur J Heart Fail* 2018; 20, 780–791

**Linde C**, et al. Gender and utilization of cardiac resynchronization therapy, and prognostic impact of QRS prolongation and left bundle branch block in heart failure. *Europace* 2015; 17:424-31

**Linde C**, et al. Sex differences in cardiac arrhythmia- a Consensus document of the European Heart Rhythm Association, Heart Rhythm Society, and Asia Pacific Heart Rhythm Society. *Europace.* 2018 Oct 1;20(10):1565-1565.

**Linde C** et al. Serum potassium and clinical outcomes in heart failure patients: results of risk calculations in 21 334 patients in the UK. *ESC Heart Fail.* 2019 Apr;6(2):280-290. doi: 10.1002/ehf2.12402. Epub 2019 Jan 10.

**Linde C** et al. Real-world associations between RAASi dose, hyperkalaemia, and adverse clinical outcomes in a cohort of patients with new-onset chronic kidney disease or heart failure in the UK, *J Am Heart Assoc.* 2019 Dec 3;8(23):e014500.

Schrage B, Lund LH, Melin M, Lijl A, Benson L, Braunschweig F, **Linde C** et al. Survival associated with use of cardiac resynchronization therapy with or without defibrillator in patients with heart failure with reduced ejection fraction. *Circulation.* 2020 Nov 5;140(19):1530-1539

Gold MR... **Linde C**. Redefining the Classifications of Response to Cardiac Resynchronization Therapy: Results From the REVERSE Study, *JACC Clin Electrophysiol.* 2021 Jul;7(7):871-880. doi: 10.1016/j.jacep.2020.11.010.

Sidhar AE... **Linde CM** et al. Identifying risk of adverse outcome in COVID-19 patients with artificial intelligence-powered analysis of 12 – lead Intake electrocardiogram. *Cardiovascular Digital Health Journal* 2021; in press

Galli E, ... **Linde C** et al .Importance of Systematic Right Ventricular Assessment in Cardiac Resynchronization Therapy Candidates: A Machine Learning Approach..J Am Soc Echocardiogr. 2021 May;34(5):494-502. doi: 10.1016/j.echo.2020.12.025

Lewinter C... **Linde C** et al. A meta-analysis of the value of betablockers and angiotensin converting enzyme inhibitors or angiotensin receptor blockers on the preservation of left ventricular function in breast cancer patients treated with anthracyclines or trastuzumab without prior heart failure.2021: Eur Heart J; in press.

## Major Research Interest

- Epidemiology of heart failure
- Quality control in HF and arrhythmia management
- Heart failure with preserved ejection fraction
- HF Therapy implementation
- Cardiac Resynchronization and device therapy in heart failure
- Gender aspects of arrhythmia and heart failure and clinical trials
- Hypertensive heart disease
- Cardio-oncology
- Cardiorenal syndrome

## Motivation Letter

It is an honor and great pleasure for me to present myself as a potential nominee for the position of Secretary/Treasurer of the ESC.

My clinical work focuses on devices for heart failure and heart failure management. I am clinically active and treat heart failure and device patients in out-patient settings on a weekly basis. In the summer I work in a small hospital. Over the years my focus has also been on organisational aspects of heart failure management through leading a heart failure improvement project in Stockholm- the 4 D heart failure project. I also worked on implementation of device therapy in particular CRT across ESC countries as member of steering committee of CRT Survey I and as co PI of CRT Survey II.

My research encompasses CRT, cardiac contractility modulation, implementation of therapies and epidemiology of heart failure. My research group - the Stockholm PREFERS study group- studies biomarkers, proteomics, genomics and metabolomics in new onset heart failure patients in the search of drug targets for heart failure with preserved ejection fraction include all heart failure centres in greater Stockholm (2 mill).

Our goal to reduce the burden of cardiovascular disease hinges on research and development of new therapies with many fantastic new examples in heart failure only just recently with ARNi and SGLT2i studied in landmark trials such as EMPEROR preserved, DAPA HF and the PARADIGM study.

In my experience implementation of new therapies is really challenging and not only for economic reasons. Two crucial elements are prerequisites 1) *the organisation and education of health care* personnel with the cardiovascular team and patient at the centre and 2) secondly *continuous follow up and benchmarking* to promote continuous improvements against defined treatment goals. In Sweden we

have a long tradition to improving results by benchmarking using National Patient Registries- Swede-Heart. I have personal experience as director of one of them- the Swedish Pacemaker and ICD registry. I was able to bring down perioperative complications by education and benchmarking. For SWEDE-Heart the greatest achievement is to half the mortality rate for myocardial infarction over the last 15 years. This was the result of identifying and continuously measuring a set of goals (index) which resulted in improvements in revascularisation as well as in secondary prevention. Therefore, I am a strong supporter of the Euro-Heart project and its implementation which may be expected to have a profound impact of cardiovascular health of our member countries.

I strongly believe in the value of organisation of cardiac care for implementation of guidelines indicated therapies. Such changes can be initiated but no implemented from the top. To create lasting and continuous results any changes of organisation must be carried out from the bottom involving all health care providers involved including patients if possible. As a leader of the Stockholm 4D heart failure improvement project 2013-2018 we experienced how progressively more patients were diagnosed with heart failure and were prescribed guidelines indicated medication which resulted in less heart failure morbidity and mortality in Stockholm. A key success factor was thus to unite people from different hospitals and clinics, very often with conflicting interests, to engage and motivate them to elaborate a care organisation system. Euro-Heart will involve similar processes which will be different depending on leadership traditions in the various ESC countries.

CRT is one example of a largely underused therapy which saves lives in indicated heart failure patients. I therefore lead the ESC/ HFA/ EHRA CRT Survey II with Professor K Dickstein to identify barriers for CRT implementation across the ESC. This Survey involves 42 ESC countries and 11.088 CRT recipients at 288 centres. To date it has produced > 20 papers. Many of these papers compared national results to the total cohort revealing strengths and weaknesses of CRT practise in a particular country. We found *that treatment traditions often are based on political decisions and the influence of key opinion leaders and not only economic realities* determined use of CRT esp. for combined therapy with ICDs. Such work has given a basis for National quality improvements in CRT implantation and in patient selection in the participating countries. Ultimately, we hope that the results will contribute to more patients receiving CRT. If heart failure therapies can be continuously monitored through patient registries such as Euro-Heart the impact of course will be infinitely greater.

I also have experience PI of a randomised controlled study focusing on CRT in mild heart failure patients - the REVERSE study. The results of this international multicentre trial paved the way for CRT to become indicated in mild heart failure patients. As PI I gained experience in leading a randomised controlled study across Europe and the US and in facilitating the subsequent and still ongoing meta-analysis projects together with the sponsor and PIs of other CRT randomised controlled studies. I thus also have developed a good collaboration and understanding of the Med-tech Industry.

I have leadership experience in Sweden in an environment of constant changes and budget cuts. During my time as Head of cardiology at the Karolinska University hospital two University hospitals in Stockholm were merged. I was responsible for merging the two Departments of Cardiology – the Karolinska Solna and the former Huddinge Hospital. These units had experienced fierce competition. This process gave me experience in handling people under pressure and in solving conflicts and succeeding (for the most part) to motivate people to look ahead and see opportunities. Despite

reorganisations and budget cuts the electrophysiology expanded to the largest centre in Scandinavia and one of the first centres for transcatheter valves was created during my leadership.

### **My achievements for the ESC as Councillor and Vice-president.**

I have a broad experience of working for ESC. Over my 25 years in ESC and in the international research community I have acquired a wide network of contacts in ESC countries and the US/Canada. As a Vice-president I believe I was successful in establishing a collaborative and friendly environment across my responsibilities and in reaching the goals set to me by the ESC President, the ESC Board and myself.

**Membership committee.** In the membership committee we work with representatives from all constituent bodies with the goal to increase number of active (paying) and loyal members to increase both the overall number of ESC members and the income to the ESC in a time of dwindling financial support from industry. But more importantly, we identified the need for new educational tools to attract the young and identified barriers for membership (not always financial). One of these barriers was the disparate membership benefits and fees in different associations which confused members many of whom are members of more than one Association. Firm attempts to homogenize levels of membership fees and benefits were made. In the process we were seeing a growing number of active members especially from the young community and globally.

**Working groups/ Councils.** Through workshops with leadership of working groups the rules of governance were analysed and discussed. This fruitful interaction gave valuable input to the revision of the rules of governance process which were initiated as part of the ongoing statutes' revision. My experience is that such interaction is necessary and contributes to a common understanding. In addition, it has also created a new awareness of the activities between WGs and created common collaborations and meetings. Similar results were achieved for the councils.

**Young community.** I have been active in promoting young representation in congress and suggested the creation of the ESC Board for young cardiovascular professionals which was successfully implemented in 2020 and now takes an active part in the Board.

**Women and diversity in ESC.** Under the presidency of previous presidents in particular Professor Barbara Casadei a great change in perception of gender balance across the volunteers of the ESC was created. Over these years the proportion of female representation as active congress participants has increased. I contributed to the creation of a list of women able to be speakers, chairpersons and invited speakers has been helpful in achieving this change. But yearly measuring and reporting the results is essential to achieve sustainable changes.

As Vice-President I encouraged and supported women to aim for leadership positions including from former Eastern countries. For me personally and the ESC we need to do increase geographical diversity, expand female and young representation to meet the future. This is essential since more than 50% of our members are below the age of 40 years of age. Of these an increasing proportion are women.

We also need to continue the successful Oxford female leadership programme WTLP made possible by the past ESC President Barbara Casadei. This prestigious programme to date has trained close to 50 leaders from diverse ESC member and affiliated countries. I aim to support potential new leadership training possibilities for women and the young.

## **The Secretary/Treasurer position**

*I will serve the ESC Mission “to reduce the burden of cardiovascular disease” and contribute to the implementation of the ESC strategic plan to the best of my ability. I will respect the code of conduct and the ESC board policies.*

## **The Pandemic**

The Pandemic has changed everything. The ESC has very successfully embraced all its aspects including disease prevention promotion of research of the cardiovascular health consequences of the pandemic. The pandemic also resulted in a transition from the leading cardiovascular Congress to the extremely successful digital congresses. Webinars and e-based educations were further developed. The skill of the Heart House and the leadership of the ESC for achieving this cannot be overestimated. But although a digital congresses and webinars attract a huge audience the aspects of networking there are obvious drawbacks and especially for the young. Their motivation to present research results have declined. It is therefore crucial to find our way to hybrid meetings and to face to face meetings to inspire and attract the young and to create new energy in the Boards and committees. In my opinion, face to face meetings will be crucial for the new Board of the ESC to create an energetic group with well-defined goals. Moreover, the possibility to implement change (other than digital) and reach results requires personal interaction: It will be a challenge also for the next Board to balance the aftermaths of the pandemic while being ready to adjust to the next.

## **Setting goals: time to set goals to reduce the burden of cardiovascular disease.**

Although the mission of ESC to reduce the burden of cardiovascular disease is very clear it has not been translated into specific goals and timelines. In my opinion we have the tools to set these with the use of our five pillars and with the recent addition of National Patient Registries- EuroHeart. Before the pandemic I believed it was the right moment to set realistic goals to reduce the burden of cardiovascular disease for example by 30% by 2030. With continuous measurements and follow up through registries, interaction with decision makers and politicians and with the engagement of our National cardiac societies, Associations, members, allied professionals and the young we can achieve this. A more vigorous implementation of existing and emerging therapies across ESC countries thus may have a huge potential in improving cardiovascular health. Should I be given the opportunity I will raise this possibility in the Board and the timing in relation to the pandemic. It must also be discussed how our society can balance between tangible European while enhancing global health and education.

## **Advocacy**

*To increase the awareness of the impact of cardiovascular disease and to reach our health goals our presence in Brussels and in helping NCs to advocate nationally is essential. Involving patient representatives will increase our impact when approaching politicians.*

### ***How to achieve it:***

We need to put much more emphasis on advocacy. We can work for available and emerging therapies to reach our patients through our cardiologists and allied professionals. We must expand ongoing activities to interact with decision-makers and politicians. Patient representatives giving their narratives will help us getting a greater impact than to date.

We have the information about cardiovascular health and outcomes in the ESC by the ATLAS, EORP and the existing registries and Surveys.

We must help the NC with advocacy in their countries when requested. There is reason to believe that politicians in former Eastern countries are more approachable and sensitive to advice from the ESC and the NC than Western countries which means that such efforts may have large impacts. But we must work also promote our goals with the European Union leadership countries and the EU parliament to engage them in setting cardiovascular health goals and to highlight the importance of supporting research grants in cardiovascular disease. Lobbying with politicians in the European parliament and National politicians takes time and skills. But the gains to be made are huge for common heart health not in the least in former Eastern ESC countries. I therefore, believe that our ongoing activities in Brussels and elsewhere need to be reinforced. It is my conviction that adding goals and timelines to our mission will contribute to success.

The Euro-Heart initiative that enables continuous monitoring of results of guidelines implementation and quality of care may provide benchmarking opportunities inside and potentially between countries. My personal experience is that this is a very efficient tool to improve quality of care and to improve quality of life and reduce mortality. By the registries hospitals will continuously be able to identify areas that need improvements and act. In Sweden this improved the quality of care in all hospitals also the weaker ones. The acceptance or reporting data became very high over time. This is a huge investment of the ESC and of the NCs that wish to participate. Each country must provide a large commitment in terms of infrastructure and leadership. If these things can be resolved there is a huge potential to improve for example mortality rate of acute coronary syndromes by increased access to revascularisation and prevention. In addition, a base for registry based randomised controlled studies over ESC can become a reality. I will do everything I can to support this ongoing process.

### **Engage the National Cardiac Societies and the Associated Member Countries.**

*It remains a fact that cardiovascular health is worse in the former Eastern countries. Yet the ESC leadership is dominated by Western European country representatives and therapy implementation is suboptimal where it is most needed.*

#### ***How to improve the situation:***

The ESC ATLAS shows huge discrepancies in therapy delivery. The “ESC cardiovascular realities” demonstrates that the trend in a reduced mortality of cardiovascular disease overall has been slowing recently in particular in middle income countries. In addition, the most common risk factors are not adequately treated such as hypertension and hyperlipidaemia and inactivity and obesity are rising. Moreover, the availability of cardiovascular care is less in Eastern Europe and North Africa. By monitoring and reporting data we can highlight these facts to politicians and organisations to make them aware of these inequalities. We need their support to get forward. For example, goals on healthy lifestyle can be more vigorous when coming from the top to bottom from politicians and cardiologists jointly both from a EU perspective and nationally. The full engagement of our members including the young, women and nurses and other health care professionals and patient representatives is crucial to fulfil the mission of the ESC and new potential goals. Students also need to be engaged to choose our speciality and may contribute to health care improvements already while in training.

**Leadership aspects:** The membership countries of ESC cover an enormous geographical area. I want to contribute to consolidate our member and associate member countries. Key is a closer collaboration with

the NCs by focusing on their needs and priorities and potentially by enhancing regional collaboration. As a first step I suggest that the ESC board will be given the opportunity to be trained in cultural differences of our member countries to increase our understanding of our NCs. But we also need to recognize their contribution, and to ascertain a broader geographical representation in ESC committees and in the Board. I suggest to regularly report geographical diversity in our committees and Boards just as we do for gender balance.

An improved collaboration could also be reached by having small meetings with the ESC Board and the NC outside of major national and international meetings. For example, the ESC board meetings could alternate between National Cardiac Society countries enabling such small meetings. Work distribution inside the ESC Board could also be further developed to meet the needs and expectations of the NCs.

We know from a Survey that the NCs want to improve communication by regular interactions tailored to the NCs. They want to define common strategic issues between ESC, Associations and NCs starting with advocacy. I believe we should follow their proposal and start with a NC -Spring days´-forum setting priorities which could result in a “business plan” for the incoming new strategic plan of the ESC. It could result in deciding on joint actions to be implemented and monitored. Such actions will also give the NCs the opportunity to report on their achievements and to get the recognition and visibility they deserve and require.

### **Engaging members, engaging the young**

*The strongest asset of the ESC is our members. They are highly motivated ambitious and want the best for their patients wherever they are. Our constituent bodies have fantastic members who want to contribute to fulfilling the mission of the ESC. 50% of the ESC members are below the age of 40. The ESC has recognised the importance of the young community.*

**How to improve the situation:** Through the membership committee we reinforced collaborations with the NCs promoting National cardiac society membership and ESC regular and associate membership in joint campaigns including offering institutional membership.

We can make a better job of engaging members. Therefore, we need to focus on enhancing active (paying) membership and on communicating all activities that the ESC can offer. But we need to an even better job to embrace the energy and ambition of the young to be seen as a more contemporary organisation since half of our society is constituted by young members. We need to identify and meet their needs. In addition, we need their help in the implementation of guidelines, registries, Euro-Heart and not in the least in motivating students in medical professions to choose to work or specialise in Cardiology.

Importantly, for the Euro-Heart programme the young are crucial. They can assist NC leadership in setting up structures to entering data, training fellow physicians and nurses and by discussing emerging quality data which will call for action plans. Finally, the young naturally are more interested in and used to apps, artificial intelligence, social media and digital health. For the development of these the young will pave the way for their use and development.

### **Education**

*One of the strongest motivators of our young professionals is to profit from the great display of educational activities of the ESC and including examinations and accreditation. NCs have a strong interest to streamline cardiology training in Europe based on ESC Core Curriculum 2020*

***How to achieve it:***

The core curriculum for general cardiology exam needs to be implemented and examinations enabled and recognized across our member countries. For sub-specialization the Associations all have their examinations and accreditation. Many NCs want them to be recognized in their own countries. We will need to help them achieve these commonly beneficial goals.

It is my belief that young cardiologists should be encouraged to take these examinations and then become involved in educational tasks. Reaching a commonly recognized examinations based on core curriculum will enable a better geographic diversity in future core curriculums since selection of collaborators in part also is based on a recent exam experience.

The new campus at Heart House opens for new possibilities and digital techniques to help them and for performing the available educational courses “in house”. Webinars and e-based educations will be further developed. There is a potential to create simulation centres. Finally, the sense of belonging will be reinforced by this campus which enables more interaction within and between ongoing course attendees.

**Research/Congress**

*Successful Grant applications are the basis for research. In recent years EU funding has not moved in favour of CV research. Major effort such as the ERA CVD has been made to demonstrate that CV death remains the most common cause of death in EU.*

***How to achieve it:***

Setting up a structure for EU grant applications in Brussels will potentially increase our chances of getting network funding for excellent research programmes from our constituent bodies and as approved by the Scientific committee. The continuous lobbying with EU leaders will be necessary to ascertain future EU research grant possibilities intended for cardiovascular research.

Moreover, the implementation of Euro-Heart can be the basis for registry based randomised controlled trials and to identify eligible patients for RCTs. If successful, we can envision rapid recruitment and completion of registry based RCTs testing established therapies if many ESC countries are involved. Such studies will be complimentary to but will not replace RCTs.

The ESC annual congress is the Jewel of the Crown and the leading CV congress in the world. Moreover, the congresses/meetings of our Associations, WGs and Councils are also very successful and had growing attendance. Digital attendance has been overwhelmingly high which has moved the ESC forward as the leading cardiovascular organisation. Our collaborations with international sister societies need to be further supported including expansion of that with Latin America and Africa and Asia. Since many professionals will never be able to travel to our congress and do not master English language we must enable more wrap-up live-streamed events in local language (countries or possible regions selected by ESC) as desired by our National cardiac societies and affiliated societies and in addition to the very successful ESC 365.

The versatility of the Society will be crucial for the future. There will be new therapies and diagnostics and others will disappear. The ESC has been quick to embrace the pandemic and new fields such as cardio-oncology and cardio-genetics and genomics and must continue to be so.

**Final words:**

I have the deepest respect for the achievements of the present and past ESC boards and want to build on to them. I will do all I can to contribute to further success whichever my position will be. I also have a very high regard for the staff of the ESC and enjoy very good relations at Heart House. For me it is essential to work closely and regularly respecting their timelines to move issues forward. My 25-year experience with the ESC has given me the extensive network and social skills needed to become ESC Secretary/Treasurer. I can contribute with an open and communicative leadership style ensuring interaction between the Audit Committee and the Board related to the conduct of the financial and business affairs of the ESC. I will support the Presidential – Trio and the pending new strategic plan.

I am very interested in different cultures and speak five languages (Swedish, English, German, French and Italian and some Spanish). Finally, and importantly, I will have time to become Secretary Treasurer should the nominating committee give me the confidence to candidate and potentially be elected. I will do my utmost to enhance the mission of the ESC to support the President and the Board and the Heart House.

Cecilia Linde, MD, Professor of Cardiology,  
Phone:+46-760 526494  
Email: Cecilia.linde@ki.se