ESC European Society of Cardiology

Cardiovascular Research (2020) **116**, e146–e148
doi:10.1093/cvr/cvaa154

ONLIFE COMMENTARIES

CARDIOVASCULAR RESEARCH Onlife

ESC Committee for Practice Guidelines: providing knowledge to everyday clinical practice

Stephan Windecker *

Department of Cardiology, Inselspital, Bern University Hospital, University of Bern, Freiburgstrasse, CH-3010 Bern, Switzerland

Keywords European Society of Cardiology • Committee • Practice Guidelines • Cardiology • ESC

For more than 25 years, under the auspices of the Committee for Practice Guidelines (CPG), the European Society of Cardiology (ESC) has produced clinical practice guidelines. The first published guideline was dedicated to cardiovascular disease prevention. In 1994, the CPG was officially inaugurated and tasked to oversee the process and procedures of guideline development, approval and publication. ESC Clinical Practice Guidelines provide evidence-based recommendations to practicing physicians, address areas of consensus and disagreement, aim to improve standards in clinical practice, and thereby assist everyday clinical decision-making.

Guideline topics have been derived from the ESC Core Curriculum for the General Cardiologist so far.[1] Currently, 23 of 28 topics of the ESC Core Curriculum are addressed in guideline documents covering a broad range of subjects, including cardiovascular prevention, risk factors and major disease entities. The publication schedule foresees an update and revision of major guideline topics every 4–6 years as recommended by the CPG and subsequently confirmed by the ESC Board. In 2021, the ESC will publish four guidelines related to the diagnosis and management of heart failure, valvular heart disease, cardiac pacing and resynchronization therapy, and cardiovascular disease prevention.

The guideline development is supervised by the CPG and entails the appointment of, typically, two task force chairs that lead a diverse group of experts, representatives of ESC Associations, Working Groups and Councils relevant to the specific guideline topic, methodologists and, more recently, patients. The CPG also appoints review coordinators who assemble a group of 25–40 expert reviewers. Together with delegates from 57 ESC National Cardiac Societies, they perform an independent peer review of the guideline draft. The entire process, from initiation of the task force to publication and presentation at the ESC Congress, may take up to two and a half years, during which the review process alone may consume one year with two, possibly three rounds of revision. On average, this process generates close to three thousand reviewer comments that each task force will need to address. The diversity of task force members and the intensity of the review process, which includes ESC National Cardiac Society representatives, ensures a high quality and the implementation of a checks-and-balances principle. The goal is to provide state-of-the-art documents with expert-consensus and evidence-based recommendations that are practical and balanced. Of note, the task force implements systematic and anonymous voting on guideline recommendations to ensure and record a high level of consensus.

The typical structure of a guideline dealing with a disease entity, such as atrial fibrillation or heart failure, follows a vertical format that addresses disease prevention, diagnosis (including risk scores), treatment options (including indications), outcomes and management strategies. Guidelines are also instrumental in delineating and defining treatment algorithms and pathways, performance measures, as well as gaps in evidence and unmet needs to be addressed in future research.

Recommendations are summarized in colour-coded grading tables (*Table 1*) that follow the predefined ESC format, using classes of recommendations (I–III) and levels of evidence (A–C) indicating the level of confidence and robustness of data in support of each statement. Each task force is expected to perform a structured literature research and to identify areas of uncertainty or controversy that may be addressed by systematic reviews as needed. For this purpose, and in addition to the two methodologists that are part of the CPG oversight committee, the expertise of at least one methodologist—typically a clinical epidemiologist or biostatistician recognized in the field of clinical trial methodology—is required in each task force. Noteworthy, only 10–15% of current recommendations in ESC and ACC/AHA guidelines achieve the highest level and quality of evidence (Class IA), an observation that has not changed during the last decade, pointing to the need for more strategic investment into clinical research on a societal level.[2]

Guidelines are only meaningful if implemented and disseminated to a wide audience. Therefore, the involvement of ESC National Cardiac Societies and Affiliated Cardiac Societies is critical to foster ownership in the guideline content and modification according to local needs. In addition, guidelines are accompanied by a wide range of derivative and educational materials, including pocket guidelines, slide sets, patient cards, summary cards for non-cardiology specialists, and continuous medical education (CME) questions. The ESC scientific approach centres around the concept of virtuous circle, which connects guideline development with ESC educational activities and registries, one informing the other.[3] Following publication and dissemination of a given guideline, coordinated efforts by the ESC Education Committee aim to enhance timely implementation of new recommendations in clinical practice. This process is

*Corresponding author. Tel: 41-31-632 44 97, E-mail: stephan.windecker@insel.ch

Table 1 ESC classes of recommendation and Levels of evidence

	Definition	Wording to use
Class I	Evidence and/or general agreement that a given treatment or procedure is beneficial, useful, effective.	Is recommended or is indicated
Class II	Conflicting evidence and/or a divergence of opinion about the usefulness/efficacy of the given treatment or procedure.	
Class IIa	Weight of evidence/opinion is in favour of usefulness/efficacy.	Should be considered
Class IIb	Usefulness/efficacy is less well established by evidence/opinion.	May be considered
Class III	Evidence or general agreement that the given treatment or procedure is not useful/effective, and in some cases may be harmful.	Is not recommended

Level of evidence A	Data derived from multiple randomized clinical trials or meta-analyses.
Level of evidence B	Data derived from a single randomized clinical trial or large non-randomized studies.
Level of evidence C	Consensus of opinion of the experts and/or small studies, retrospective studies, registries.

actively surveilled in accompanying registries and questionnaires monitoring their acceptance across various ESC National Cardiac Societies. This, in turn, informs the next guideline task force of progress made.

The management of actual and perceived conflicts of interests is central to the mission of the ESC CPG and are detailed in the ESC declaration and management of conflict of interest policy. Noteworthy, these policies have been published in the document 'Relations between professional medical Associations and the Health Care Industry, concerning scientific communication and continuing medical education'[4] and as a member of the Biomed Alliance, the ESC led the task force that prepared and published the Biomed Alliance Code of Conduct, that was formally adopted by the ESC in December 2015.

Owing to the contribution of countless volunteers, experts and ESC staff, the guideline process has matured over the past two decades and follows a set of standard operating procedures.[5] Notwithstanding, it is the mission of the CPG to continuously improve the scope, quality, and content of the ESC Guidelines in order to provide reliable and trusted documents with the goal of advancing the prevention, diagnosis, and treatment of cardiovascular disease.

Conflict of interest: Stephan Windecker reports research and educational grants to the institution from Abbott, Amgen, BMS, Bayer, Boston Scientific, Biotronik, Cardinal Health, CSL Behring, Daiichi Sankyo, Edwards Lifesciences, Johnson&Johnson, Medtronic, Querbet, Polares, Sanofi, Terumo, Sinomed. Stephan Windecker serves as unpaid member of the steering/executive group of trials funded by Abbott, Amgen, BMS, Boston Scientific, Biotronik, Cardiovalve, Edwards Lifesciences, MedAlliance, Medtronic, Polares, Sinomed, v-wave and Xeltis, but has not received personal payments by any pharmaceutical company or device manufacturer. He is also member of the steering/executive committee group of several investigated-initiated trials that receive funding by industry without impact on his personal remuneration.

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Author

Biography: Prof. Stephan Windecker is Chairman of the Department of Cardiology at Bern University Hospital, Inselspital, Switzerland. Being an interventional cardiologist by training, he has previously served as President of the European Association of Percutaneous Cardiovascular Interventions (EAPCI) of the European Society of Cardiology. He chaired the Task Force on the evaluation of coronary stents in Europe commissioned by the European Society of Cardiology, whose recommendations were published in the European Heart Journal to provide guidance for new regulatory processes for stents. Together with his surgical colleague Prof Philip Kolh, he co-chaired the joint European Society of Cardiology/European Association of Cardiothoracic Surgery guidelines on myocardial revascularization published in 2014. Between 2016 and 2020, he served as Chair of the ESC Clinical Practice Guideline Committee. Prof. Windecker's research interests are clinical trials with focus on the evaluation of intracoronary devices and drugs for the treatment of coronary artery disease, antithrombotic therapy for patients requiring cardiac device implantation, and research related to minimal-invasive heart valve treatment including transcatheter aortic, mitral and tricuspid valve interventions.