

New guidelines deliver concise messages for implementing cardiovascular prevention

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The latest cardiovascular disease (CVD) prevention guidelines have been overhauled to produce a user friendly document with concise messages that awards greater weight than ever before to evidence from clinical trials and observational population studies. The "European Guidelines on Cardiovascular Disease Prevention in Clinical Practice (version 2012)" were launched at the EuroPREvent2012 meeting in Dublin, Ireland.

"In the past, implementation of prevention [guidelines](#) could undoubtedly have been better. So in a radical departure we've designed the guidelines in a new format that makes them much more accessible," explained Professor Joep Perk, the chairperson of the Guidelines Task Force. "The change is to help disseminate the information from the guidelines out to where it's needed - [health professionals](#) working in the field, politicians and the general public."

The latest guidelines, developed by the Fifth Joint Task Force (JTF) of societies of Cardiovascular Disease Prevention in Clinical Practice, which includes the European Society of cardiology (ESC) and seven other societies, are around one third shorter than the 2007 fourth edition. "We've gone back to the first principles of teaching by introducing the what, why, whom, how and where of preventive cardiology," said Perk, from Linnaeus University, Kalmar, Sweden.

The guidelines stress that CVD prevention should be a "life long effort" that starts in the [womb](#) and lasts to the end of life. Greater emphasis has been placed on the behavioural aspects of prevention, with discussion of

ways to make it easier for patients to change their life styles.

For the first time the guidelines were launched at the EuroPrevent2012 meeting, held 3 to 5 May 2012, and published simultaneously in the *European Heart Journal* and *European Journal of Preventive Cardiology*. "This was deliberate. It's meant that we could structure the meeting around the guidelines with plenty of opportunities for wide ranging discussions that allow everyone to get up to speed," explained Professor Ian Graham, Chairperson of the EACPR Prevention Implementation Committee, and co-chairperson of the EuroPrevent2012 Programme Committee.

Special guideline sessions have been organised for GPs and practice nurses, with additional training sessions to teach the national coordinators, who have been specially appointed from the different European countries to implement the guidelines, on how to engage with politicians, the profession and the public. An electronic, interactive Guideline Learning Tool will also be launched at EuroPrevent2012. "We're really excited about this because it will allow doctors, students and other health care professionals to engage interactively with the guidelines through case histories and other new learning techniques," commented Graham.

Additionally, pocket guidelines, an A4 page with all the essential information and a slide-set for teaching purposes are in development. "Our ultimate aim is to get an A4 summary of the guidelines on the desk of every single family doctor in Europe. It will be the bible of health prevention," said Perk.

Urgent need to improve CVD prevention

The overwhelming need to promote CVD prevention is underlined by statistics showing CVD to be the leading cause of premature death world-

wide. Each year in Europe over 4.3 million people will die of CVD (source: European Heart Network) , and of all the deaths occurring before the age of 75 years CVD is estimated to be responsible for 42% of deaths in women and 38% in men.

But the vast majority of these deaths might have been prevented through the widespread adoption of simple interventions such as smoking cessation, improved diets and increased exercise. Evidence that CVD is caused by modifiable risk factors and preventable comes from [clinical trials](#) and observational community studies. For instance in the INTERHEART study, a case controlled study comparing the lifestyles of around 15,000 patients who had suffered an acute MI and 15,000 controls, it was found that nine modifiable risk factors accounted for 90% of the attributable risk in men and 94% in women. The risk factors were dyslipidaemia, smoking, hypertension, diabetes, abdominal obesity, psychosocial factors, consumption of fruits, vegetables and alcohol, and physical activity.

"The INTERHEART study results suggest that 90% of heart attacks worldwide may be prevented, and that the majority of heart attacks are a direct result of the personal lifestyle choices made by individuals," said Professor Guy De Backer, a member of the Guideline Task Force. "But the good news is that it's never too late for people to make modifications to lifestyle, even after they've suffered an event."

Evidence for this comes from a 2010 study published in *Circulation* where Clara Chow and colleagues, asked 19,000 patients who had undergone PCI after MI questions about lifestyle. The study, which took place in 41 countries, showed that patients who continued to smoke and did not adhere to diet and exercise regimens were 3.8 times more likely to suffer an MI, stroke, or death within six months than non-smokers who modified diet and increased exercise. Both groups complied with their medications. "The challenge for CVD guidelines lies in translating

this evidence into effective preventive care, and in persuading the public to lead healthy life styles," said De Backer, from Ghent University, Belgium.

Greater emphasis placed on population studies

In a radical departure the Task Force have for the first time introduced the Grading of Recommendations Assessment Development and Evaluation (GRADE) system for assessing medical evidence that gives increased weight to population studies.

This is in addition to the traditional approach, applied by the ESC in all its guidelines, that awards recommendations different classes (I, IIa, IIb, or III) according to the type of trial the evidence has been obtained from.

The GRADE system, developed by the *British Medical Journal*, takes into account more dimensions than just the quality of the medical evidence, considering factors such as the degree of uncertainty about the balance of benefits and harms of the intervention, and whether the intervention is a wise use of resources. It allows clear separation between the quality of evidence and strength of the recommendations.

"The traditional approach for grading the quality of the evidence gives predominance to randomised controlled trials (RCTs). This is good science but carries a problem in that drug trials will always outscore lifestyle measures because it's easy to do RCTs of cholesterol and blood pressure drugs, but hard to do RCTs of smoking cessation or other lifestyle changes," said Graham, from Trinity College, Dublin.

The GRADE system only uses two categories of recommendation – strong or weak. This encompasses strong recommendations to do something, strong recommendations not to do something, and weak recommendations. The implications of a strong recommendation are that

most informed patients would choose the recommended intervention; whereas for weak recommendations some patients would want the intervention, but many would not. "It's hoped that the GRADE system will allow much clearer interpretation of guidelines by clinicians, patients and policy makers," said Graham.

Comprehensive guidelines document covers all areas of prevention

The 2012 CVD Prevention Guidelines explore wide ranging issues such as total CV risk estimation, diseases with increased risk for CVD , methods of CVD prevention, smoking cessation interventions, dietary habits, physical activity, psychosocial factors, body weight ,blood pressure, type 2 diabetes, lipids, and anti thrombotic therapies.

Increased emphasis has been placed on the principles of behavioural change, with a section exploring why patients do not adhere to medications. Each section has been clearly sign posted including the key messages and recommendations, the most important new information (for the real connoisseurs), and the remaining gaps in evidence. "This section is intended for researchers seeking inspiration," explains Perk.

A new addition is the "where" chapter that looks at prevention in different health care settings, and explores the contributions of nurse coordinated prevention programmes, family doctors, cardiologists working in general practice and specialised hospital based rehabilitation services.

The final chapter focuses on the "new era" of political engagement in preventive cardiology, showing how in addition to clinical prevention activities, health care professionals should extend their remit to include political lobbying activities that influence healthy behaviours in the

wider population.

"Although we've already made gains at the clinical level to have a really big impact on CVD we need to engage politicians. Changing human behaviour is a political issue," said Perk. "We need to create a healthier environment and this requires changes in the law, such as reducing the amount of salt and trans fatty acids in food, providing more cycle lanes and getting school curriculums to include more movement."

More information: *EHJ* 2012, [doi:10.1093/eurheartj/ehs092](https://doi.org/10.1093/eurheartj/ehs092)

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