

Targeted and population-based strategies both necessary for blood pressure control

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Hypertension, or high blood pressure, is the leading risk factor for heart disease, and improvements in both targeted and population-based strategies for blood pressure control can lead to better prevention and

control of hypertension, according to a review paper published today in the *Journal of the American College of Cardiology*. This paper is part of an eight-part health promotion series where each paper will focus on a different risk factor for cardiovascular disease.

The prevalence of [hypertension](#) globally is high and continues to increase. High [blood pressure](#) is associated with an increased risk of stroke, ischemic heart disease, heart failure and noncardiac vascular disease, as well as other conditions.

"Hypertension is caused by a combination of genetic, environmental and social determinants," said Robert M. Carey, MD, professor of medicine at the University of Virginia School of Medicine and lead author of the paper. "While genetic predisposition is nonmodifiable and conveys lifelong cardiovascular risk, the risk for hypertension is modifiable and largely preventable due to a strong influence by key environmental and lifestyle factors."

Modifiable lifestyle factors, which are gradually introduced in childhood and early adult life, include being overweight/obesity, unhealthy diet, high sodium and low potassium intake, insufficient physical activity and consumption of alcohol. Many adults do not change their lifestyle after being diagnosed with hypertension and sustaining any changes that are made can be difficult.

Social determinants such as race and socioeconomic status are also [risk factors](#) for hypertension. High [blood](#) pressure is more prevalent in black and Hispanic populations as well as poorer areas and certain geographical areas such as the southeastern U.S.

According to the authors, prevention and control of hypertension can be achieved through targeted and population-based strategies. The targeted approach is the traditional strategy used in [health care](#) practice and seeks

to achieve a clinically important reduction in blood pressure for individual patients. The population-based strategy aims to achieve small reductions that are applied to the entire population, resulting in a small downward shift in the entire blood pressure distribution. Studies have shown that the population-based approach may be better at preventing cardiovascular disease compared with the targeted strategy.

Factors preventing successful hypertension control include inaccurate blood pressure measurement and diagnosis of hypertension, lack of hypertension awareness and access to health care, and proper hypertension treatment and control. Low rates of medication adherence is also a common problem.

"Challenges to the prevention, detection, awareness and management of hypertension will require a multipronged approach directed not only to high-risk populations, but also to communities, schools, worksites and the food industry," Carey said.

In the review, the authors discuss the Chronic Care Model, a framework for redesigning health care and addressing deficiencies in the care of chronic conditions such as hypertension, which may offer strategies for overcoming barriers at the health system, physician, patient and community levels. It is a collaborative partnership among the patient, provider and health system that incorporates a multilevel approach for control of hypertension. The model includes six domains—decision support, self-management support, delivery design, information systems, community resources and health care systems—which have been shown to lead to activated patients, responsive health care teams, improved health services and treatment outcomes, and cost-effectiveness. It also recognizes a collaborative partnership between the patient, provider and the care team. Community groups and organizations also play a significant role in providing health care information and support to various populations. Connected health, such as telemedicine and

telephone and mobile [health](#) interventions can also help deliver improved care to a of greater number of patients with hypertension.

"Remarkable progress has been made in the understanding of blood [pressure](#) as a risk factor for [heart disease](#) and improving approaches to the prevention and treatment of hypertension," said Carey. "However, further research is still necessary to optimize care for these patients."

More information: *Journal of the American College of Cardiology* (2018). [DOI: 10.1016/j.jacc.2018.07.008](https://doi.org/10.1016/j.jacc.2018.07.008)

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