

Optimizing treatments for high blood pressure and cardiovascular disease could save lives, according to researchers

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A recent study shows that optimizing medicines for high blood pressure and cardiovascular disease patients living in East London could reduce lifetime hospital costs and prevent cardiovascular events such as heart

attacks and strokes.

In the study, funded by Barts Charity, researchers evaluated gaps in blood pressure and cholesterol-lowering statin treatments for patients who had been diagnosed with [high blood pressure](#) or cardiovascular disease.

The team, which included researchers from Queen Mary's Wolfson Institute of Population Health and William Harvey Research Institute studied over one million people living in East London in 2019 to understand treatment gaps. Their findings show that 27 per cent of patients with high blood pressure and 38 per cent of patients with cardiovascular disease do not currently receive optimal treatments for their conditions.

The researchers then developed a model to predict the cardiovascular events that could be avoided, years and quality-adjusted life years gained, and healthcare costs saved, with optimized treatments. The results suggest that over five years, full optimisation of blood pressure and cholesterol-lowering medications could prevent almost 1000 heart attacks, strokes or related deaths from hypertension or cardiovascular disease. And over the patients' lifetime, full optimisation could save over £50 million in hospital costs.

The researchers suggest that even a modest 10 per cent improvement in medicine optimisation could have a significant impact on this patient population.

Dr Runguo Wu, Health Economist from Queen Mary's Wolfson Institute of Population Health and first author of the study, said: "These results show that optimizing cardiovascular treatments can cost-effectively reduce cardiovascular risk and improve life expectancy."

Cardiovascular disease is the most common cause of morbidity and mortality worldwide, and high blood pressure and high cholesterol are two key risk factors.

The study used data from over 100 primary care practices from the City and Hackney, Newham, and Tower Hamlets clinical commissioning groups. The local authorities covered by these NHS services are among the 10 per cent most socially deprived areas in England, and the diverse population includes large South Asian and Black British, African, and Caribbean ethnic groups.

More information: Runguo Wu et al, Gaps in antihypertensive and statin treatments and benefits of optimisation: a modelling study in a 1 million ethnically diverse urban population in UK, *BMJ Open* (2021). [DOI: 10.1136/bmjopen-2021-052884](https://doi.org/10.1136/bmjopen-2021-052884)

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