

Failing to see the forest for the trees may prevent better cardiovascular outcomes

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Managing single risk factors like blood pressure rather than looking at overall risk may be wasting scarce resources in countries where cardiovascular disease (CVD) is on the rise, according to a new study.

Researchers looked at country-specific levels of cardiovascular risk, associations with socio-demographic factors and whether WHO guidelines on the use of blood pressure medication were being followed across 45 low-income and middle-income countries (LMICs).

They found a higher risk of CVD in lower educated and non-employed people, an overuse of medicines in people at lower levels of CVD risk and an underuse of medicines in people at higher risk across all countries.

Lead investigator Professor David Peiris from The George Institute for Global Health said that the findings challenged perceptions that CVD is a disease of affluence and suggested precious resources could be better allocated if risk was assessed more holistically.

"Shifting treatments away from people at lower levels of risk towards higher risk groups may have the greatest potential to generate benefit both at the individual and health system levels," he said.

Cardiovascular disease is the leading cause of death worldwide, accounting for over 17 million deaths equivalent to 233 deaths per 100,000 people in 2017, around seven times greater than number of deaths reported from the COVID-19 pandemic to date.

The burden in [low-income](#) and middle-income countries is rising, and CVD occurs at younger ages in these countries compared to [high income countries](#), putting considerable strain on those affected, their families, and health systems more broadly.

But identifying people at high risk is challenging, especially in settings with low-skilled health workforces and inadequate access to [healthcare services](#).

"Over the past decade, there has been a shift in CVD prevention from treating single risk factor abnormalities like high [blood pressure](#) to management based on a person's overall future risk of experiencing a cardiovascular event like a heart attack," said Professor Peiris.

"This approach has been shown to be a better at identifying who will benefit the most from treatment compared to just focusing on single risk factors."

The study found an underuse of medicines in people at higher risk of CVD across all countries—only 24 percent of men and just over 40 percent of women at high CVD risk were taking BP medication as recommended by treatment guidelines.

However, 47 percent of all BP medication was being used by people at low CVD risk who,

according to guidelines, did not have a medical need to do so.

"The health service delivery systems currently do not respond to the patient's needs," commented study co-author Prof. Silver Bahendeka from MKPGMS Uganda Martyrs University—St. Francis Hospital Nsambya in Kampala, Uganda.

The authors noted that although most country-specific and international guidelines recommend assessing overall CVD risk as a critical first step in making treatment decisions, most countries don't seem to be following them.

"Greater adoption of risk-based guidelines requires a substantial change in management approach at multiple levels in the health system," added Professor Peiris.

"This is urgently needed, given the rising rates of chronic disease in low- and [middle-income countries](#), to save health services and the lives that depend on them."

The study is published in *PLOS Medicine*.

More information: *PLOS Medicine*, [DOI: 10.1371/journal.pmed.1003485](#)

Provided by George Institute for Global Health

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