

## Combination pill could be cost effective in preventing heart disease

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(Medical Xpress)—A single combination pill could reduce cardiovascular disease and stroke in Latin Americans by up to 21 percent at a cost of about \$35 per quality adjusted life year gained, according to a study led by a University of Wisconsin School of Medicine and Public Health research team.

"Our simulation study showed that a pill that combines aspirin, a drug that lowers blood cholesterol (a statin), and three drugs that [lower blood pressure](#), could be one of the most cost-effective [health interventions](#) to reduce heart attack, stroke and other cardiovascular health risks," says study leader Dr. Leonelo Bautista, associate professor of population health sciences. Bautista led a team that included academics and public health leaders from across South America, Central America and the Caribbean.

They looked at the costs of treating people at high risk of developing cardiovascular disease with a polypill and the benefits of that intervention in terms of gains in quality-adjusted life years (QALY), a measure that takes into account both the quantity and quality of life generated by a health care intervention.

The study found the pill could reduce the [lifetime risk](#) of cardiovascular disease by 15 percent in women and 21 percent in men. The results of the study suggest that the pill should be offered to women at high risk of developing cardiovascular disease and to all men 55 years and older. Using the polypill in these groups would result in a cost of about \$35 per

quality-adjusted life year gained.

The polypill was not only cost-effective for preventing cardiovascular disease and stroke, but was also cost-effective compared with many interventions already in use in Latin America. For instance, the cost of \$35 per QALY for the polypill compares to \$56 per QALY for annual screening for [cervical cancer](#), \$700 per QALY for [eye exams](#) to check for [diabetic retinopathy](#), or \$1,020 per QALY for the use of angiotensin-converting enzyme (ACE) inhibitors for [blood pressure control](#).

The per capita gross national income in the countries included in the study ranged from \$4,710 in Peru to \$15,500 in Puerto Rico. In all countries the additional cost of gaining one QALY was many times lower than the per capita gross national income, the recommended guideline to identify if an intervention is cost-effective.

"By all measures, this type of intervention would be cost-effective, and could also be cost-saving," says Bautista, who also says that the findings of this type of study can help governments in defining public health policies to prevent cardiovascular diseases.

While such a "polypill" is not available in the United States at this time, there is evidence that using a polypill in US men 55 years old and older could result in lower cost and higher health benefit than the standard approach of screening and treating for hypertension and hypercholesterolemia.

The study is being published in the January edition of the journal *Health Affairs*. A grant from the Inter-American Development Bank supported the study.

## **About the Polypill**

A "polypill" is a tablet or capsule consisting of a combination of drugs to reduce several cardiovascular risk factors simultaneously: aspirin, a statin (to lower cholesterol), and three drugs to lower blood pressure. All components of the polypill have been shown to reduce cardiovascular disease events by 20 to 35 percent in people with, and without, previous cardiovascular events, but the impact of a [combination pill](#) is uncertain.

It is known that cardiovascular disease deaths could be cut by half by reducing smoking, blood cholesterol, and blood pressure. Unfortunately, using medication to prevent cardiovascular disease and stroke by treating a minority of patients with high values of blood pressure and blood cholesterol can achieve only modest reductions in the [risk of cardiovascular disease](#) in the population. The idea of a "[polypill](#)" is based on using an intervention on everyone at increased risk, regardless of individual level of [blood cholesterol](#) and blood pressure, and reducing three risk factors with only one pill.

**More information:** [content.healthaffairs.org/content/32/1/155.abstract](http://content.healthaffairs.org/content/32/1/155.abstract)

Provided by University of Wisconsin-Madison

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