

# Prevalence of elevated cardiovascular risk among South African adults: trends and socioeconomic disparities 1998-2017

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## Background

Risk assessment is key in the prevention and management of cardiovascular disease (CVD) and a prerequisite for evidence-based public health policy. Empirical data for low- and middle-income countries are scant and of varying quality. This study analyses time trends and socioeconomic differentials in the prevalence of elevated cardiovascular risk among South African adults.

## Methods

We used harmonized observational data on over 51000 individuals aged 40-74 years without history of CVD from 9 nationally representative surveys conducted in South Africa between 1998 and 2017. For each individual, we calculated the 10-year risk of a cardiovascular event using the office-based Globorisk score and estimated a series of generalized additive models to recover temporal trends in the prevalence of elevated risk (risk score >20%), by sex, age, population group, education level, and rural vs urban residence. We used multiple imputation to deal with missing data.

## Results

Between 1998 and 2017 the prevalence of elevated CVD risk increased from 19.3% (95%CI: 17.8%;20.8%) to 23.4% (21.7;25.2%) among males and from 8.8% (7.8%;9.6%) to 11.9% (10.9%;12.9%) among females. Data suggest a reversal of the increasing trend after 2012 among females and after 2014 among males.

The prevalence of elevated risk increased across all ages, with evidence of a recent trend reversal in all but the youngest age group. Large disparities existed across socioeconomic strata, with age-standardised prevalence of elevated risk consistently higher in the Coloured population group, among urban dwellers and among those with less than tertiary education.

Preliminary analyses of trends in major factors affecting cardiovascular risk suggest antihypertensive treatment as a major contributor to the recent trend reversal.

## Discussion

Despite the encouraging signs of improvement, absolute values in the prevalence of elevated CVD risk in the South African population are of concern, especially in light of the growth and ageing of the population. Targeted interventions for urban dwellers, low-education and younger population strata may be considered to curb the current trend.