

Stroke incidence in urban Tanzania significantly higher than in developed countries

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The incidence of strokes in rural Tanzania is similar to that reported in developed countries, but rates in urban Tanzania are almost three times higher. These findings highlight the urgent need for community-level health screening and improved prevention measures to reduce stroke incidence in urban areas, concludes the first study in sub-Saharan Africa to include community-based identification of strokes published Online first and in the August edition of the *Lancet Neurology*.

Stroke is an increasing problem in [developing countries](#), but little is known about the occurrence and burden of stroke in sub-Saharan Africa. Additionally, most data on the incidence of stroke in sub-Saharan Africa are from hospital-based studies and are not necessarily typical of the wider community. Indeed, previous research into stroke deaths in Tanzania has shown that only 56% of people in rural Hai and 30% of people in urban Dar-es-Salaam who die from stroke do so in hospital.

To provide reliable population-based data, the Tanzanian Stroke Incidence Project (TSIP) was established to investigate stroke incidence in rural (Hai) and urban (Dar-es-Salaam) Tanzania between June 2003 and June 2006. Over 3 years, all patients who had a stroke in Hai (population 159 814) and Dar-es-Salaam (population 56 517) were enrolled. The researchers identified stroke patients using a system of community-based sources—community-based investigators and staff at local hospitals and medical centres. Deaths from stroke that occurred

before recruitment into the study were identified using verbal [autopsy](#).

Over the 3 years, 636 people had a stroke, 453 in Hai and 183 in Dar-es-Salaam. Crude yearly stroke incidence rates were 94.5 per 100 000 in rural Hai and 107.9 per 100 000 in urban Dar-es-Salaam. When age-standardised to the WHO world population, annual incidence rates were almost three times higher in Dar-es-Salaam (315.9 per 10 000) compared with Hai (108.6 per 100 000).

The authors suggest: "The reasons for the higher incidence of stroke in urban areas are not yet clear, although undiagnosed or inadequately treated hypertension is likely to be a major modifiable risk factor."

Previous research has found that two-thirds of patients who died from stroke in Tanzania had a history of high blood pressure, and that people who live in urban areas in sub-Saharan Africa have higher rates of hypertension than those from rural communities.

They conclude: "Urbanisation in Africa, as in other parts of the developing world, is increasing rapidly, and the results from this study suggest that, in the absence of effective preventive measures, this is likely to lead to substantial increases in stroke incidence and mortality."

In an accompanying Comment, Thomas Truelsen from Copenhagen University Hospital in Denmark says that these results confirm those of other studies in African populations showing high rates of hypertension, especially in urban areas, and suggest that prevention of stroke in these populations should include control of high blood pressure.

He also praises the authors on their "stepwise" approach to collection of stroke data: "The present study from rural and urban Tanzania both sets new standards for [stroke](#) incidence studies in Africa and suggests that improved prevention is urgently needed to reduce the already high [stroke incidence](#) rates in these populations."

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