



The Lancet 2006; 367:44-51

DOI:10.1016/S0140-6736(06)67923-3

# Mortality in the Democratic Republic of Congo: a nationwide survey

[Benjamin Coghlan](#) <sup>a b</sup>, [Richard J Brennan](#) <sup>c</sup>  , [Pascal Ngoy](#) <sup>d</sup>, [David Dofara](#) <sup>d</sup>, [Brad Otto](#) <sup>e</sup>, [Mark Clements](#) <sup>b</sup> and [Tony Stewart](#) <sup>a</sup>

## Summary

### *Background*

Commencing in 1998, the war in the Democratic Republic of Congo has been a humanitarian disaster, but has drawn little response from the international community. To document rates and trends in mortality and provide recommendations for political and humanitarian interventions, we did a nationwide mortality survey during April–July, 2004.

### *Methods*

We used a stratified three-stage, household-based cluster sampling technique. Of 511 health zones, 49 were excluded because of insecurity, and four were purposely selected to allow historical comparisons. From the remainder, probability of selection was proportional to population size. Geographical distribution and size of cluster determined how households were selected: systematic random or classic proximity sampling. Heads of households were asked about all deaths of household members during January, 2003, to April, 2004.

### *Findings*

19 500 households were visited. The national crude mortality rate of 2.1 deaths per 1000 per month (95% CI 1.6–2.6) was 40% higher than the sub-Saharan regional level (1.5), corresponding to 600 000 more deaths than would be expected during the recall period and 38 000 excess deaths per month. Total death toll from the conflict (1998–2004) was estimated to be 3.9 million. Mortality rate was higher in unstable eastern provinces, showing the effect of insecurity. Most deaths were from easily preventable and treatable illnesses rather than violence. Regression analysis suggested that if the effects of violence were removed, all-cause mortality could fall to almost normal rates.

### *Interpretation*

The conflict in the Democratic Republic of Congo remains the world's deadliest humanitarian crisis. To save lives, improvements in security and increased humanitarian assistance are urgently needed.

### *Affiliations*

<sup>a</sup> Centre for International Health, Burnet Institute, Melbourne, Australia

<sup>b</sup> National Centre for Epidemiology and Population Health, Australian National University, Canberra, Australia

<sup>c</sup> International Rescue Committee, New York, NY 10168, USA

<sup>d</sup> International Rescue Committee, Kinshasa, Democratic Republic of Congo

<sup>e</sup> Centre for International Health, Burnet Institute, Bali, Indonesia