

Assuming continuous interviewing for 10 h despite 55°C heat,³ this allows 15 min per interview including walking between households and obtaining informed consent and death certificates. The improbability of so many interviews being done so quickly and reliance on “word of mouth among households” during selection and recruitment suggest potential sources of bias, ethical compromise, and risk to interviewees during interview-gathering.⁴

Iraq’s suffering from war is properly reflected not by producing high-mortality findings, but by producing accurate mortality findings. The Iraq Living Conditions Survey⁵ provided such an example. In this study, ten randomly sampled households were interviewed per cluster in 2200 clusters across all governorates of Iraq to provide an estimate of conflict-related deaths within the same difficult field conditions.

I declare that I have no conflict of interest.

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- 1 Burnham G, Lafta R, Doocy S, Roberts L. Mortality after the 2003 invasion of Iraq: a cross-sectional cluster sample survey. *Lancet* 2006; **368**: 1421–28.

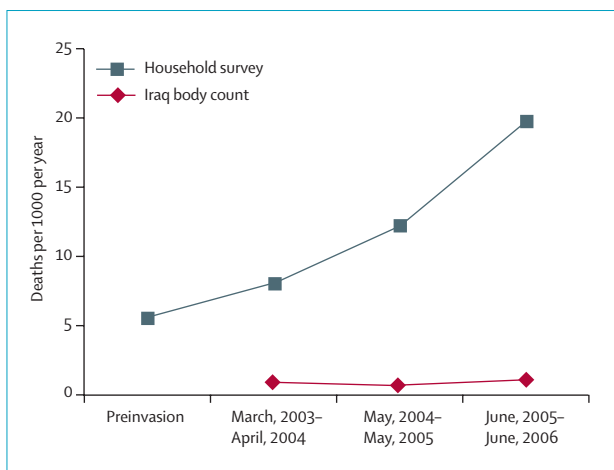


Figure: Trends in mortality reported by Iraq Body Count and by Burnham and colleagues

- 2 Johnson NF, Spagat M, Gowley S, Onnela J, Reinert G. Bias in epidemiological studies of conflict mortality. <http://www.rhul.ac.uk/economics/Research/conflict-analysis/iraq-mortality/BiasPaper.html> (accessed Dec 19, 2006).
- 3 Burnham G, Doocy S, Dzeng E, Lafta R, Roberts L. The human cost of the war in Iraq: a mortality study, 2002–2006. John Hopkins Bloomberg School of Public Health and Al Mustansiriya University School of Medicine. http://web.mit.edu/CIS/pdf/Human_Cost_of_War.pdf (accessed Oct 23, 2006).
- 4 Hicks MH. Mortality after the 2003 invasion of Iraq: were valid and ethical field methods used in this survey? http://www.hicn.org/research_design/rdn3.pdf (accessed Dec 19, 2006).
- 5 UN Development Programme. Iraq living conditions survey 2004. <http://www.iq.undp.org/LLCS/overview.htm> (accessed Oct 23, 2006).

Gilbert Burnham and colleagues’ Iraq mortality study¹ fills an important information gap in a country where reliable mortality statistics are rare. It transforms anecdotes of violence into systematic evidence. However, the paper could have addressed some methodological issues which might have strengthened the credibility of the estimates.

First, according to Burnham and colleagues’ results, there were nearly 600 war deaths per day—an unusually high number compared with almost any other armed conflict or indeed with other Iraqi mortality estimates.² Burnham and colleagues’ figure 4, in which cumulated Iraq Body Count deaths parallel their study’s mortality rates, is misleading. Rates cannot be compared with numbers, much less with cumulative numbers. The correct comparison would be the one presented here (figure), in which the Iraq Body Count numbers are transformed into rates by period. In that case, there is no similarity between the trends in the study and Iraq Body Count.

Second, the study suggests that, over a 3-year period, around 90% of the deaths were directly related to violence. However, experience from other conflicts indicates that indirect causes (disease, malnutrition) typically outnumber the deaths due to violence (bombs, gunshots, etc).³

Burnham and colleagues’ figure remained high for a long period of time. By comparison, only one of 17 surveys in Darfur reported a similar level of violent deaths, and this level only persisted for 3 months of a 6-month period.⁴

Third, the heterogeneity of the pattern of violence in Iraq argues for a differentiated estimation across the governorates. Insurgency and coalition action is still concentrated mainly in the Sunni triangle, but large tracts in the rest of the country are relatively peaceful. A better accounting for differences in violence by governorate separately and the effect of excluding the Sunni triangle would have strengthened the study.

We declare that we have no conflict of interest.

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- 1 Burnham G, Lafta R, Doocy S, Roberts L. Mortality after the 2003 invasion of Iraq: a cross-sectional cluster sample survey. *Lancet* 2006; **368**: 1421–28.
- 2 UN Development Programme. Iraq living conditions survey 2004. <http://www.iq.undp.org/LLCS/overview.htm> (accessed Oct 13, 2006).
- 3 Coghlan B, Brennan RJ, Ngoy P, et al. Mortality in the Democratic Republic of Congo: a nationwide survey. *Lancet* 2006; **367**: 44–51.
- 4 Guha-Sapir D, Degomme O. Darfur: counting the deaths. Mortality estimates from multiple survey data. Brussels: Center for Research on the Epidemiology of Disasters, 2006.

Gilbert Burnham and colleagues state in their latest Iraq mortality study¹ that the US Department of Defense (DoD) has published civilian death estimates and that these corroborate their findings. Burnham and colleagues are mistaken in these assertions.

The claimed corroboration is illustrated by their figure 4, which compares trends in their data with those from the DoD and truncated data from Iraq Body Count. The original DoD data seem to be sourced