

This is the Study

**“Mortality after the 2003 invasion of Iraq:  
a cross-sectional cluster sample  
survey”**

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## Wall Street Journal, 10/11/06

“The Defense Department until 2004 eschewed any effort to compute the number of Iraqi dead but this summer released a study putting the civilian casualty rate between May and August at 117 people a day. Other tabulations using different methodologies put the range of total civilian fatalities so far from about 50,000 to more than 150,000. President Bush in December said "30,000, more or less" had died in Iraq during the invasion and in the violence since.”

Washington Post, 10/11/2006

“President Bush says he doesn't believe it. Some experts have a problem with it. But several others say it seems sound. Such was the varied reception for a controversial new study that estimated the Iraq war has led to the deaths of nearly 655,000 Iraqis as of July.”

## Washington Post, 10/11/2006 (CONT)

"I don't consider it a credible report," President Bush said Wednesday. Neither does Gen. George W. Casey, the top American military commander in Iraq. "That 650,000 number seems way, way beyond any number that I have seen," Casey said. "I've not seen a number higher than 50,000. And so I don't give it that much credibility at all." And neither does Michael E. O'Hanlon of the Brookings Institution, which also tracks Iraqi deaths. "I do not believe the new numbers. I think they're way off," he said.

Christopher Hitchens, Slate, 10/16/06

“**The Lancet's Slant:** Epidemiology meets moral idiocy”

“There have been several challenges to the epidemiology of the *Lancet*/Johns Hopkins team concerning their definition of a population sample. And it's been noticed that Dr. Richard Horton, the editor of the magazine, is a full-throated speaker at rallies of the Islamist-Leftist alliance that makes up the British Stop the War Coalition.”

Here is the only Challenge to which Hitchens refers: *Iraq Body Count 16 October 2006*

“We would hope that, before accepting such extreme notions, serious consideration is given to the possibility that the population estimates derived from the Lancet study are flawed. The most likely source of such a flaw is some bias in the sampling methodology such that violent deaths were vastly over-represented in the sample. ***The precise potential nature of such bias is not clear at this point (it could, for example, involve problems in the application of a statistical method originally designed for studying the spread of disease in a population to direct and ongoing violence-related phenomena).*** (emphasis added) But to dismiss the possibility of such bias out of hand is surely both irresponsible and unwise.”

Even your friends have egos; WSJ 10/11/06

“Hamit Dardagan, co-founder of **Iraq Body Count**, a London-based human-rights group, called the Lancet study's figures "pretty shockingly high." His group tabulates the civilian death toll based on media reports augmented by local hospital and morgue records. His group says it has accumulated reports of as many as 48,693 civilian deaths caused by the U.S. intervention.

Mr. Burnham said the disparity between his survey and tabulations like Iraq Body Count are largely because of the heavy media and government focus on Baghdad and a few other cities. "What our data show is that the level of violence is going on throughout the country," he said.”

Don't always believe what you read; WSJ,  
10/11/06

“Corrections & Amplifications: A Johns Hopkins survey of civilian casualties in Iraq, "The Human Cost of the War in Iraq," gave a 95% certainty to the figure being between 426,269 and 793,663, with the highest probability given to the figure of 601,027. ***The initial version of this article said the study gave a 95% certainty to the 601,027 figure.***”

# Strategies to measure death rates

- 1 Counting (e.g., traditional vital statistics)
- 2 Sampling Survey

## Requirements for counting

- **Completeness**  
requires well functioning vital statistics system
- **Accuracy**  
(if diagnostic categories are important, which they almost always are)

# Sources of uncertainty in vital statistics

- Incompleteness of numerator or denominator →  
↓ or ↑ bias
- *Differential* incompleteness (across population subgroups) → bias in comparing rates across region, age, ses, sex, etc.
- Inaccuracy → Uncertain causes of death
- *Differential* inaccuracy → bias in comparing causes of death across region, age, ses, sex, etc.

## Is Counting Feasible In Iraq?

- Coalition forces: Ideal conditions → Exact and complete count of deaths, and of reference population
- Iraqi police, government, & military: Uncertain conditions
- Iraqi civilian population: almost certainly very bad conditions for vital stats

## Is *Bias* Likely in Counting Civilian Population?

- Is bias likely to be directional: ***Definitely!***
- ***Incompleteness*** of death count almost certain in chaotic conditions of war, internecine strife; rates much less sensitive to undercount of census (denominator)
- Thus, calculated death rates from counts almost certainly low
- Extent of bias towards lower rates a function of system disruption and ***distortion***- Have the authorities manipulated them?

# Sampling the Iraqi Civilian Population

Uncertainties can be due to

1) Small sample → ↑ uncertainty (wide confidence limits)

2) Unrepresentative sample- the most common problem → estimates ↓ or ↑ i.e., junk

3) Poor survey technique (bad questions, nonstandardization of survey technique, etc.)

4) Unwillingness or inability of those surveyed to give accurate answers. May be motivated to give either incomplete or inflated data.

# Do these uncertainties bias rates? In what direction?

- 1) Small sample → Should be neutral: not obviously biased up or down
- 2) Unrepresentative sample- Possibly biased but difficult to predict direction
- 3) Poor survey technique- Most likely bias is to falsely **low** rates
- 4) Unwillingness or inability of population to give accurate answers- Most likely bias is to falsely **low** rates, but could be to **high** rates

## On to Iraqi Civilians

- Vital statistics almost certainly biased **down-**reported rates almost certainly too **low**
- The clustering criticism is a red herring: the effect of clustering is to widen confidence limits; this is easily handled in analysis
- The biases associated with sampling to which we can assign directionality would tend to give falsely low rates, but this is uncertain

# What about representitiveness?

## **This is the core issue:**

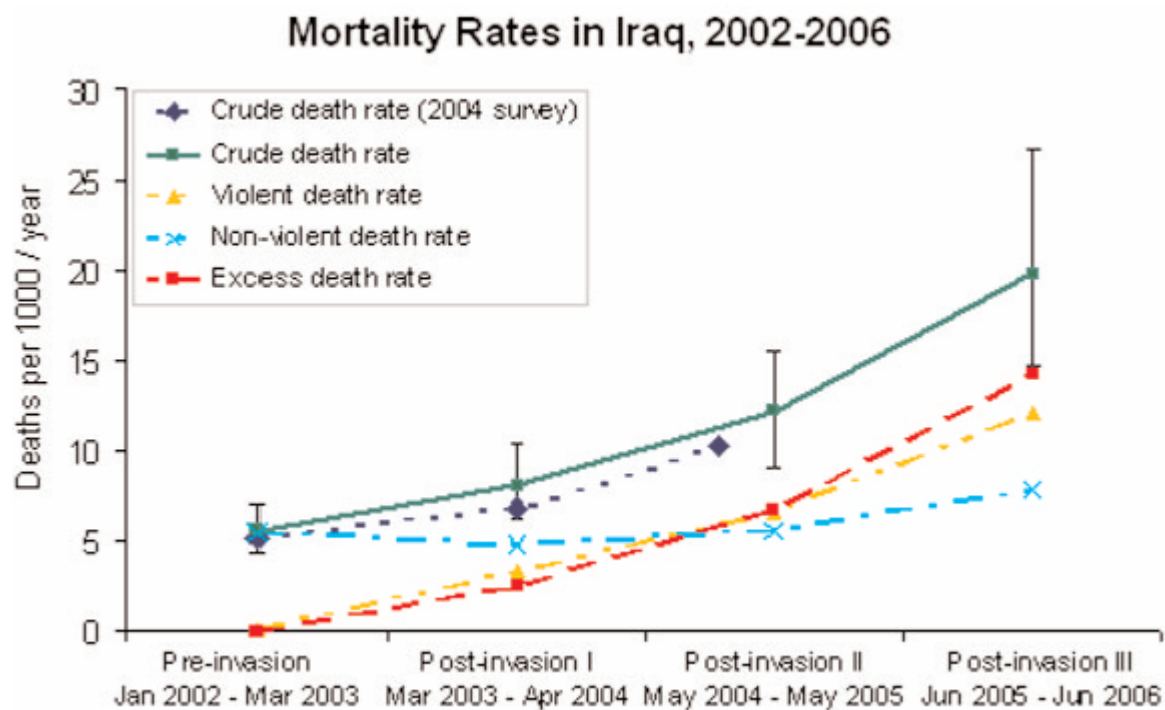
“The surveyors from the School of Medicine of Al Mustansirya University in Baghdad conducted a national survey between May and July 2006. In this survey, sites were collected according to the population size and the geographic distribution in Iraq. The survey included 16 of the 18 governates in Iraq, with larger population areas having more sample sites. The sites were selected entirely at random, so all households had an equal chance of being included. The survey used a standard cluster survey method, which is a recommended method for measuring deaths in conflict situations. The survey team visited 50 randomly selected sites in Iraq, and at each site interviewed 40 households about deaths which had occurred from January 1, 2002, until the date of the interview in July 2006.”

**Looks awfully good!**

## More survey methodology

“For this survey, all households had an equal chance of being selected. A series of completely random choices were made. First the location of each of the 50 clusters was chosen according to the geographic distribution of the population in Iraq. This is known as the first stage of sampling in which the governorates (provinces) where the survey would be conducted were selected. This sampling process went on randomly to select the town (or section of the town), the neighborhood, and then the actual house where the survey would start. This was all done using random numbers. Once the start house was selected, an interview was conducted there and then in the next 39 nearest houses.”

# Study Death Rates, by time



# Study Death Rates, by Age and Sex

