

# A Scandal of Invisibility

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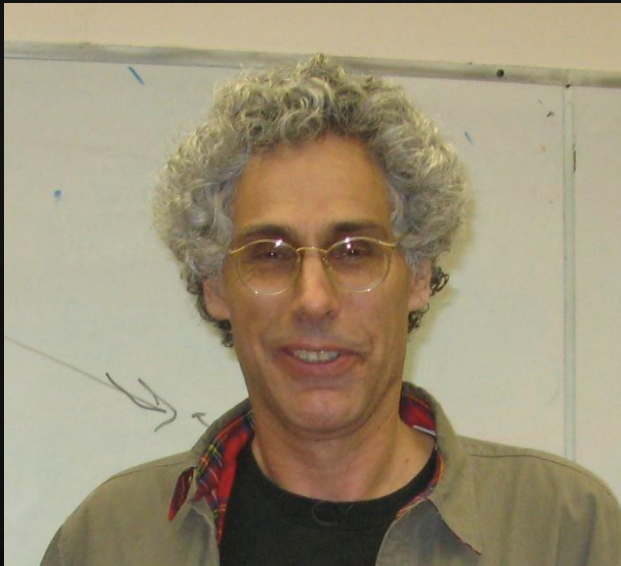
**“Too many people, especially the poor, are never counted; they are born, live and die uncounted and ignored.”**

**Who Counts?**

***The Lancet, 2007***

# **Statistics is passing through a mid-life crisis**

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- **“miserably mired in methods”**
- **“economy of thought”**
- **biased, indefensible**
- **political manipulation**
- **defending special interests**
- **p value is not a cosmic constant**
- **witch hunting, bloodletting, and astrology**

**Sander Greenland, Bradford Hill Lecture, 2010**

# THE LANCET

Volume 379 - Number 9810 - Pages 1-92 - January 7-13, 2012

www.thelancet.com

"A substantial proportion of young adults in developed countries have used an illicit drug at some time in their lives. Worldwide, around one in 20 people aged 15-64 years might have done so in the past year."

See Series page 55

## Correspondence

Open letter to Michael Ball, Chief Executive of Hospira Pharmaceuticals: Use of drugs for executions

See page 25

## Articles

CaVenT: Long-term outcome after additional catheter-directed thrombolysis for acute iliofemoral deep vein thrombosis

See page 31

## Articles

Denosumab and bone-metastasis-free survival in castration-resistant prostate cancer

See page 39

## Articles

Effectiveness of diabetes and hypertension management by rural primary health-care workers in Iran

See page 47

## Series

Addiction 1, 2, and 3: Illicit drug use and dependence; Drug policy; International drug conventions

See pages 55, 71, and 84

# WHAT DO WE DO?



# 1. COMPETITION FOR PUBLICATION HAS INTENSIFIED

# *The Lancet, 2011*

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1.	USA	1635
2.	UK	1435
3.	China	895
4.	Italy	490
5.	Japan	456
6.	France	376
7.	India	375
8.	Germany	363
9.	Netherlands	334
10.	EMRO	323
11.	Australia	318
12.	Canada	267
13.	SS Africa	225
14.	Switzerland	190
15.	Latin America	167

## 2. SCIENCE HAS GLOBALISED

## Multi-University Research Teams: Shifting Impact, Geography, and Stratification in Science

Benjamin F. Jones,<sup>1,2\*</sup> Stefan Wuchty,<sup>3\*†</sup> Brian Uzzi<sup>1,3,4\*‡</sup>

This paper demonstrates that teamwork in science increasingly spans university boundaries, a dramatic shift in knowledge production that generalizes across virtually all fields of science, engineering, and social science. Moreover, elite universities play a dominant role in this shift. By examining 4.2 million papers published over three decades, we found that multi-university collaborations (i) are the fastest growing type of authorship structure, (ii) produce the highest-impact papers when they include a top-tier university, and (iii) are increasingly stratified by in-group university rank. Despite the rising frequency of research that crosses university boundaries, the intensification of social stratification in multi-university collaborations suggests a concentration of the production of scientific knowledge in fewer rather than more centers of high-impact science.

orations were rare in 1975, which suggests that this type of collaboration is a relatively modern phenomenon (Fig. 1A). Moreover, among all three authorship arrangements, between-school collaboration is the fastest- and only steadily growing segment, quadrupling its share in SE between 1975 and 2005 to 32.8%. Figure 1B shows that SS have experienced similar trends; the share of SS papers written in multi-university collaborations rose even more rapidly over the 30-year period to a peak share of 34.4%. These upward trends appear even stronger upon further including publications with collaborators outside the sample of major U.S. universities (fig. S1).

Although the rate of increase in multi-university collaborations is essentially constant over our entire period, we found an unusual jump of 3.4% in SE, which is large ( $P < 0.0001$ ) compared to the typical year-on-year increase of

# 3. GLOBAL HEALTH SCIENCE IS A MULTICENTRE ENTERPRISE

# THE LANCET

Volume 373 · Number 9676 · Pages 1659-1734 · May 16-22, 2009

www.thelancet.com

“Climate change is the biggest global health threat of the 21st century.”

See The Lancet Commissions page 1693

## Comment

Compensation for brain drain from developing countries  
See page 1665

## Correspondence

Anorexia from canned tuna?  
See page 1672

## Articles

RECORD4: Rivaroxaban for thromboprophylaxis after total knee arthroplasty  
See page 1673

## Articles

TACT: sequential docetaxel as adjuvant chemotherapy for early breast cancer  
See page 1681

## The Lancet Commissions

Management of health effects of climate change  
See page 1693

£3.00 Registered as a newspaper - ISSN 0140-6736  
Founded 1823 · Published weekly

## 4. GLOBAL HEALTH SCIENCE IS MULTIDISCIPLINARY

**Global health; Civil, Environmental, and Geomatic Engineering; Political Science; Epidemiology and Public Health; Law; Environment; International Health and Development; Hazard Research; Human Health and Performance; Anthropology; Life Sciences; Economics; Women’s Health; Philosophy**

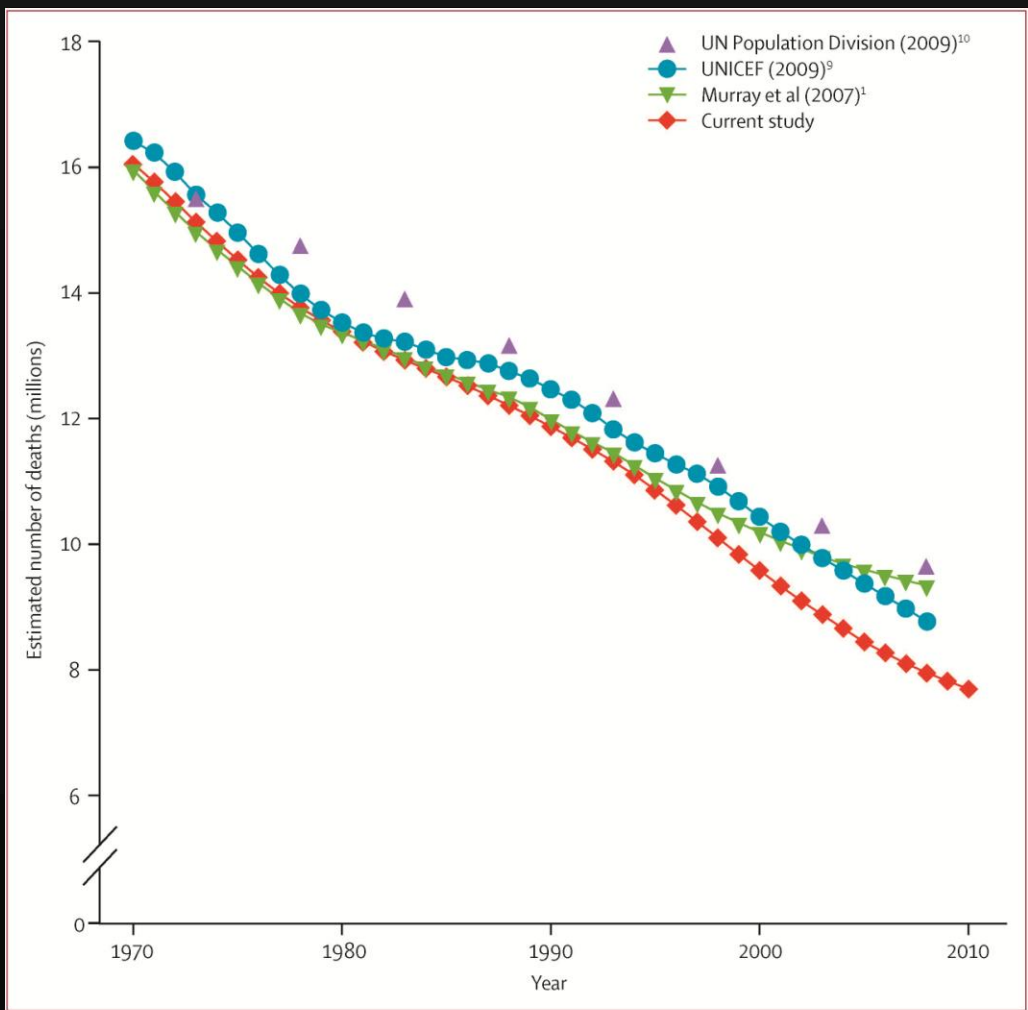


Figure 2: Worldwide number of deaths in children younger than 5 years from 1970 to 2010

# 5. THE IMPORTANCE OF THE QUANTITATIVE AND MATHEMATICAL SCIENCES HAS GROWN



# Royal Society bows to climate change sceptics

By Louise Gray  
Environment Correspondent

THE Royal Society is to revise its official documentation on climate change to better reflect scientific scepticism about man-made global warming.

The national academy of sciences has decided to act after a number of its Fellows complained that doubts over climate change were not being communicated to the public.

The society has published a number of papers on global warming, but will now issue a new guide to summarise the arguments.

Lord Rees of Ludlow, the society's president, accepted that the case for man-made global warming had been exaggerated in the past.

He emphasised that the basic science remained sound but had agreed to issue new official guidance to reflect uncertainties. "Climate change

is a hugely important issue but the public debate has all too often been clouded by exaggeration and misleading information," he said.

"We aim to provide the public with a clear indication of what is known about the climate system, what we think we know about it and, just as

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Number of Royal Society Fellows who complained that its guidance on global warming needed revising

importantly, the aspects we still do not understand very well."

In recent months the debate about global warming has been marred by scandal. Emails stolen from the University of East Anglia appeared to show that scientists were willing to manipulate data to

exaggerate warming. The individuals involved were cleared of wrongdoing but the "climategate" disclosures knocked public confidence.

At the same time, the Intergovernmental Panel on Climate Change, which advises the United Nations, was criticised after wrongly claiming that the Himalayan glaciers could melt by 2035.

Complaints were made by 43 Royal Society Fellows that its guidance did not reflect uncertainty among some in the scientific community.

They were said to be particularly unhappy with one document, *Climate Change Consensus*, which defended mainstream science from the arguments of the sceptics.

Lord Rees said the new guide had been planned for some time but was given "added impetus by concerns raised by a small group of fellows".

"Nothing in recent develop-

ments has changed or weakened the underpinning science of climate change," he said. "In the current environment we believe this new guide will be very timely. Lots of people are asking questions. Indeed, even within the Fellowship of the Society there are differing views. Our guide will be based on expert views backed up by sound scientific evidence."

He denied accusations that the national academy of sciences had ever stifled debate or that the case for man-made global warming was in doubt.

Benny Peiser, the director of the Global Warming Policy Foundation, a think-tank, said it was time the sceptics were taken more seriously.

"I think it is a very significant development in that it is no longer one or two eccentrics but a wide group of Fellows so it is taken more seriously, as it should be," he said.

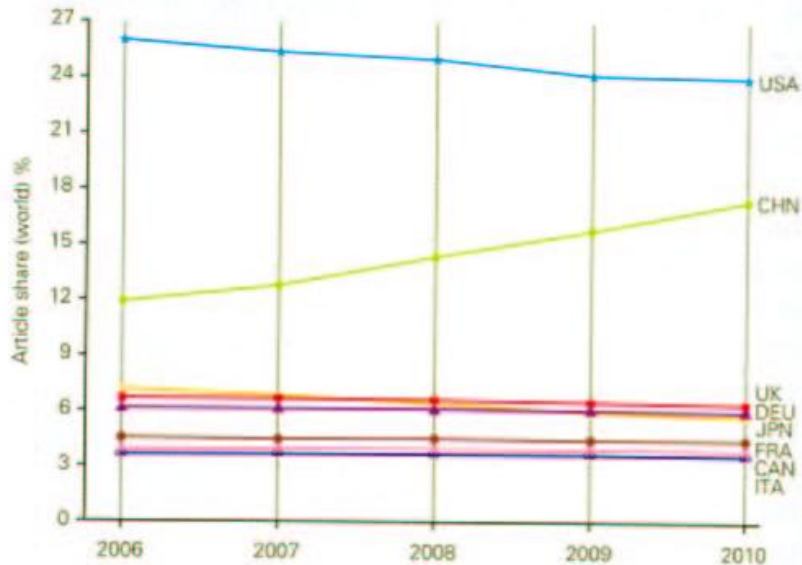
## 6. GLOBAL HEALTH SCIENCE IS A STRONGER (AND MORE CONTROVERSIAL) PART OF OUR PUBLIC CULTURE

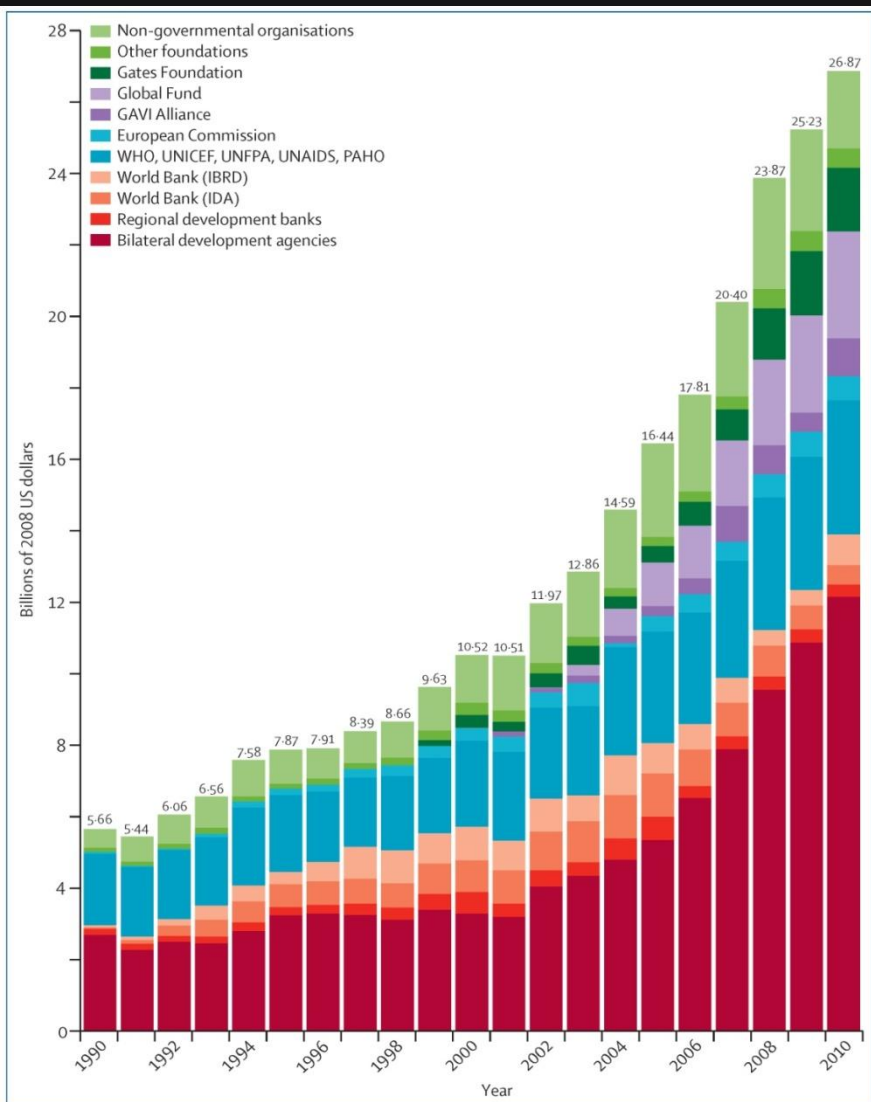


## **7. EXPOSURE OF RESEARCH MISCONDUCT IS MORE COMMON**

## 8. FUNDING BODIES AND UNIVERSITIES ARE INCREASINGLY CONCERNED WITH IMPACT

Figure 4.1 Share of world articles for UK and comparators, 2006-2010.





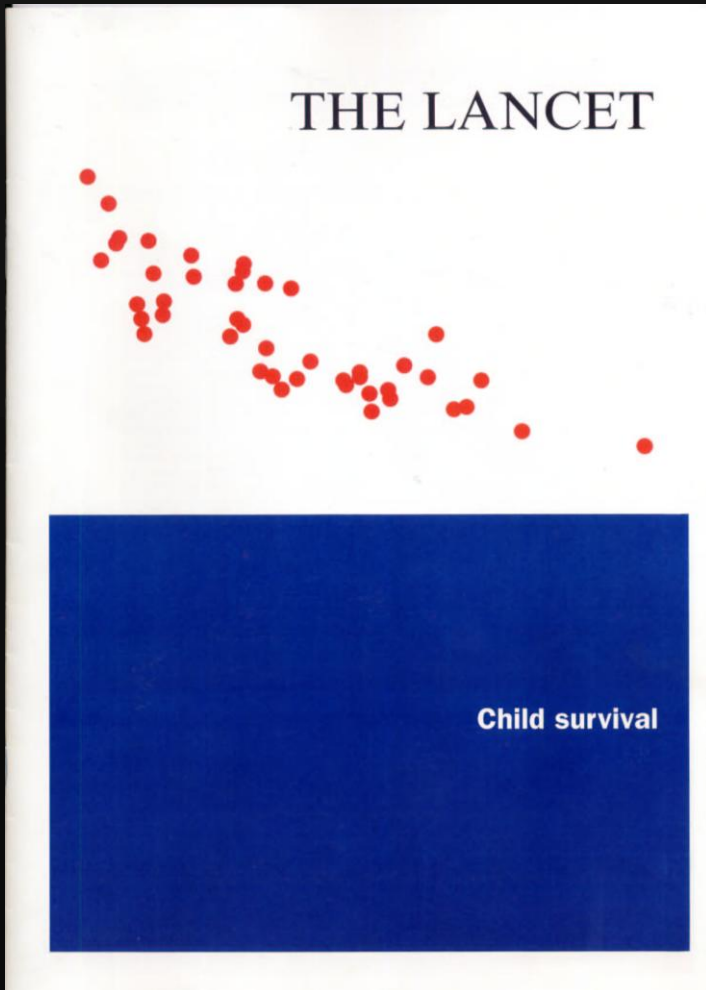
**Figure: Development assistance for health by channel of assistance, 1990–2010<sup>2</sup>**  
 IBRD=International Bank for Reconstruction and Development. IDA=International Development Association.  
<sup>2</sup>2009 and 2010 are preliminary estimates based on information from the channels, including budgets, appropriations, and correspondence.

**9. GLOBAL HEALTH SPENDING HAS DRIVEN A DRAMATIC INCREASE IN RESEARCH OUTPUTS**

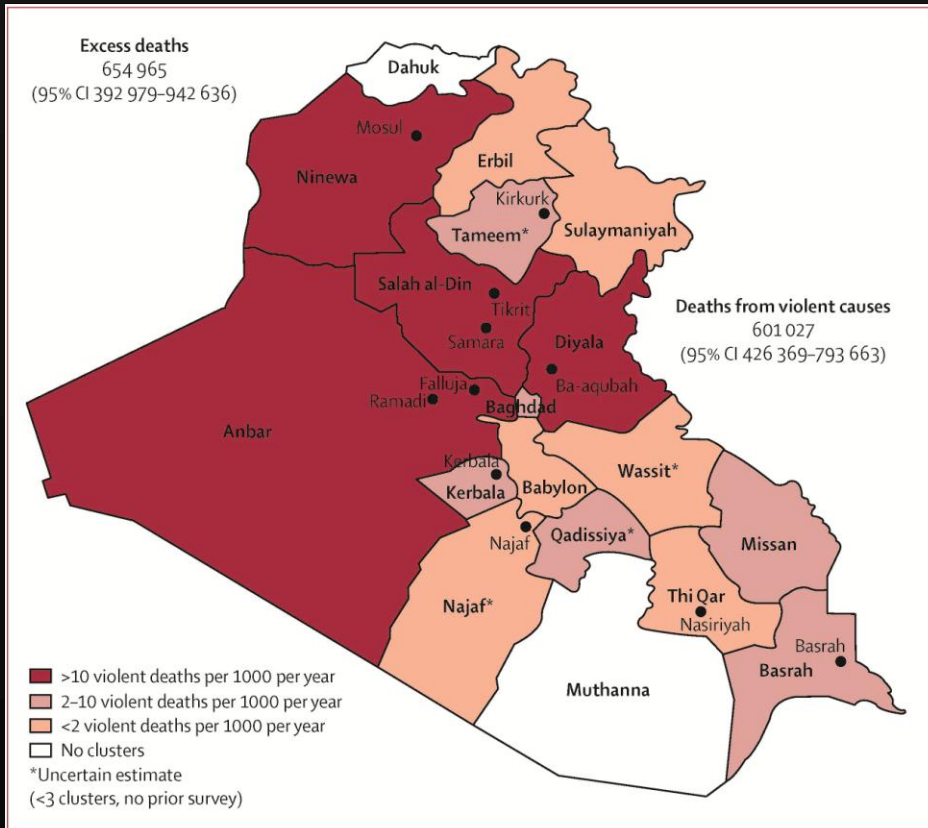
**10. PARTICIPANTS IN GLOBAL HEALTH RESEARCH HAVE MASSIVELY DIVERSIFIED**

# Advocacy vs Science

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# Advocacy vs Science



**Figure 3: Death rates due to violent causes per Governorate**

Mortality rates in Governorates with fewer than three clusters were confirmed with 2004 survey data; estimates for provinces with fewer than three clusters that could not be confirmed are potentially uncertain due to the small sample size.



# Institutional Rivalry

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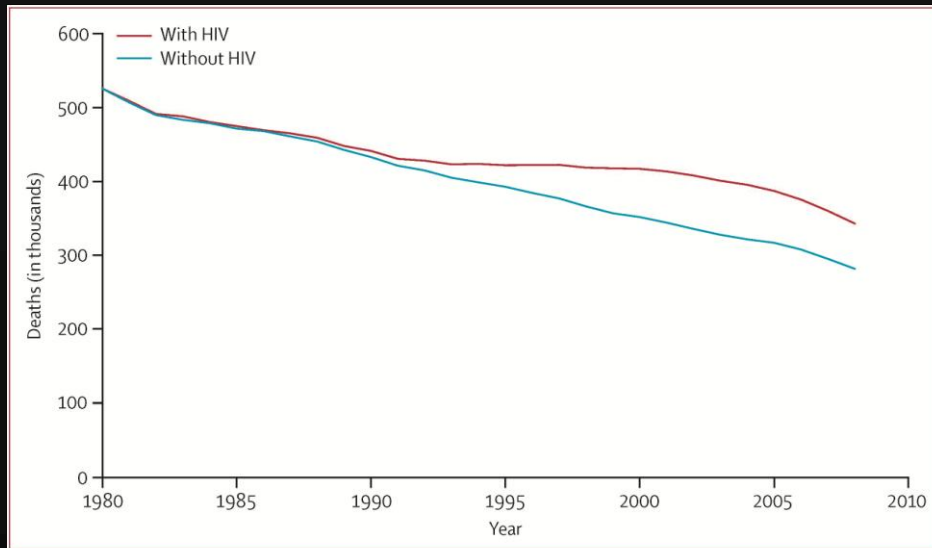


Figure 2: Global maternal deaths, 1980–2008



World Health Organization

# Institutional Rivalry



NUTRITION SCIENCE

## *Lancet* and MSF Split Over Malnutrition Series

### **MSF Response to The Lancet's Undernutrition series.**

#### **Lancet Series on Undernutrition Off Target to Save the Lives of Millions of Malnourished Children**

London, 16 January 2008 – A series on maternal and child undernutrition in the current issue of the medical journal *The Lancet*, correctly puts the spotlight on nutrition as "a desperately neglected aspect of maternal, newborn, and child health." However, because of weaknesses in analysis and outmoded recommendations the series is undermining efforts to promote urgently needed change.

Food Programme.<sup>90</sup> We could not find any randomised trials that had investigated the effect of ready-to-use therapeutic foods on mortality. However, observational data from field programmes suggest that management of severe malnutrition at home with preprepared balanced food can achieve high coverage and low case fatality (table 7). The overall case-fatality rate in 23 511



# Science vs Policy

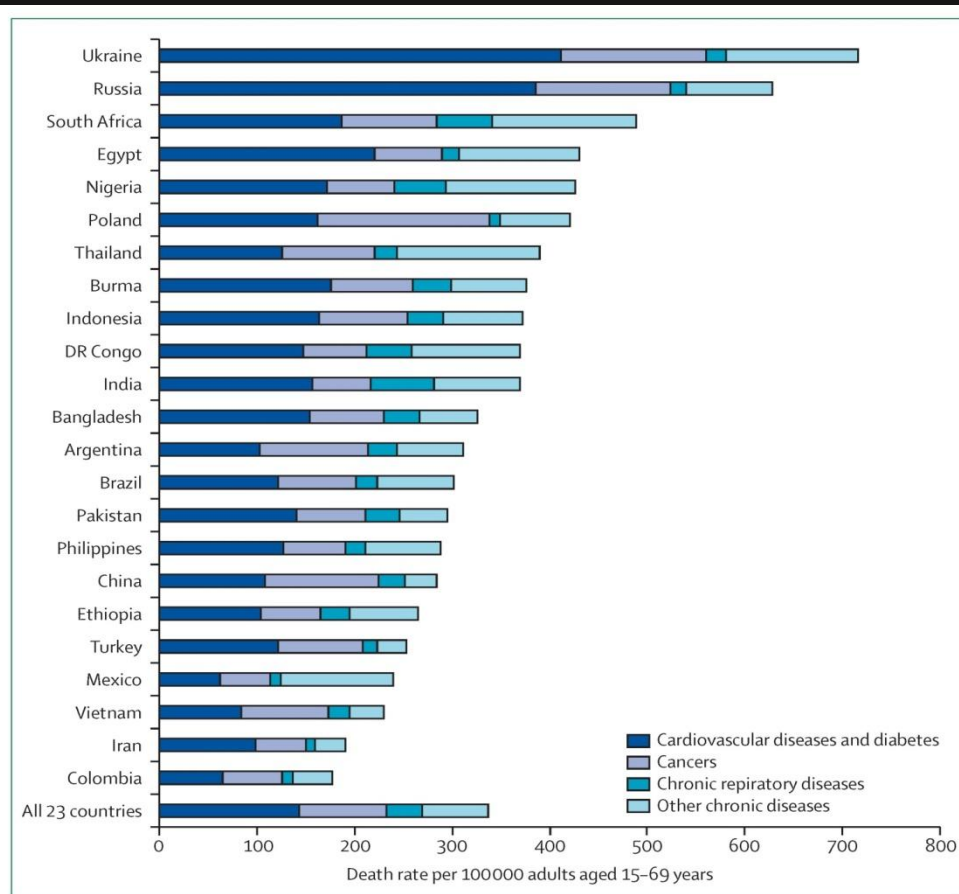



Figure 3: Death rates from non-communicable diseases per 100 000 adults aged 15-69 years in 23 high-burden countries

United Nations A/66/L.1

 **General Assembly** Distr.: Limited  
16 September 2011  
Original: English

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Sixty-sixth session  
Agenda item 117  
Follow-up to the outcome of the Millennium Summit

**Draft resolution submitted by the President of the General Assembly**

**Political declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases**

*The General Assembly,*



Adopts the Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases annexed to the present resolution.

**Annex**

**Political Declaration of the High-level Meeting of the General Assembly on the Prevention and Control of Non-communicable Diseases**

We, Heads of State and Government and representatives of States and Governments, assembled at the United Nations from 19 to 20 September 2011, to address the prevention and control of non-communicable diseases worldwide, with a particular focus on developmental and other challenges and social and economic impacts, particularly for developing countries,

1. Acknowledge that the global burden and threat of non-communicable diseases constitutes one of the major challenges for development in the twenty-first century, which undermines social and economic development throughout the world, and threatens the achievement of internationally agreed development goals;
2. Recognize that non-communicable diseases are a threat to the economies of many Member States, and may lead to increasing inequalities between countries and populations;
3. Recognize the primary role and responsibility of Governments in responding to the challenge of non-communicable diseases and the essential need for the efforts

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# Science vs Policy

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## THE LANCET

www.thelancet.com

### Malaria Elimination

An Executive Summary for *The Lancet* Series



"More than 2 billion people live in the 32 malaria-eliminating countries. The benefits to these individuals, their countries, their neighbouring countries, and the world from continuing to shrink the malaria map is clearly large."

## Eliminating malaria impossible without vaccine

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AP foreign, Friday October 29 2010

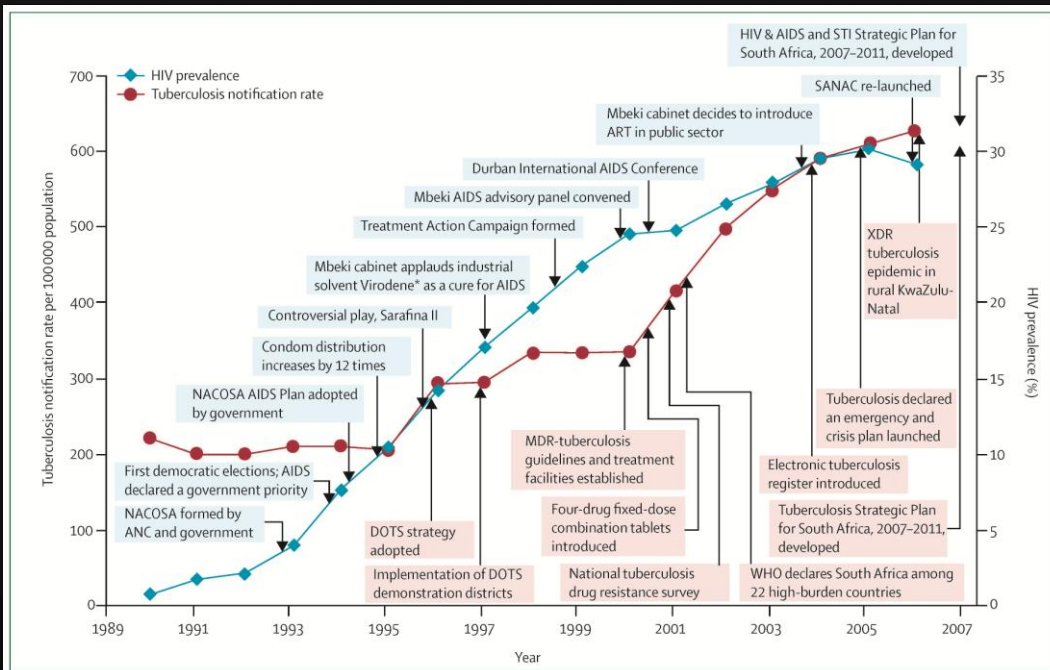
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### MARIA CHENG

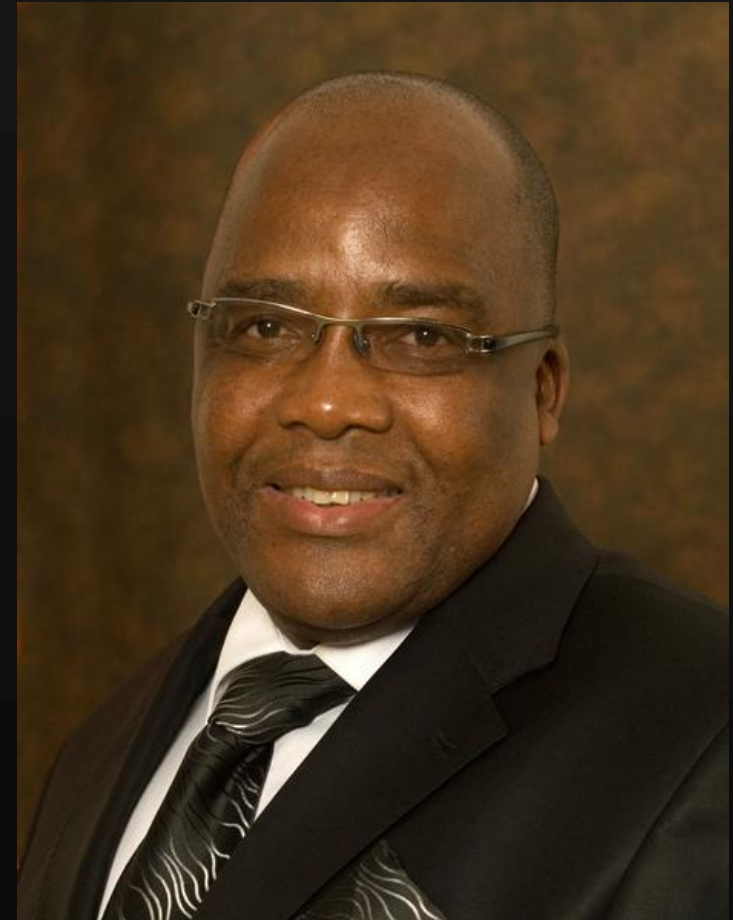
AP Medical Writer= LONDON (AP) — Eliminating malaria, the mosquito-borne scourge that kills more than 860,000 people a year, would be a dream come true for millions — but medical experts say right now that goal remains completely unrealistic.

That view from leading researchers contrasts sharply with grand announcements by the Bill & Melinda Gates Foundation and the World Health Organization, which have declared their wish to rid the world of the disease.

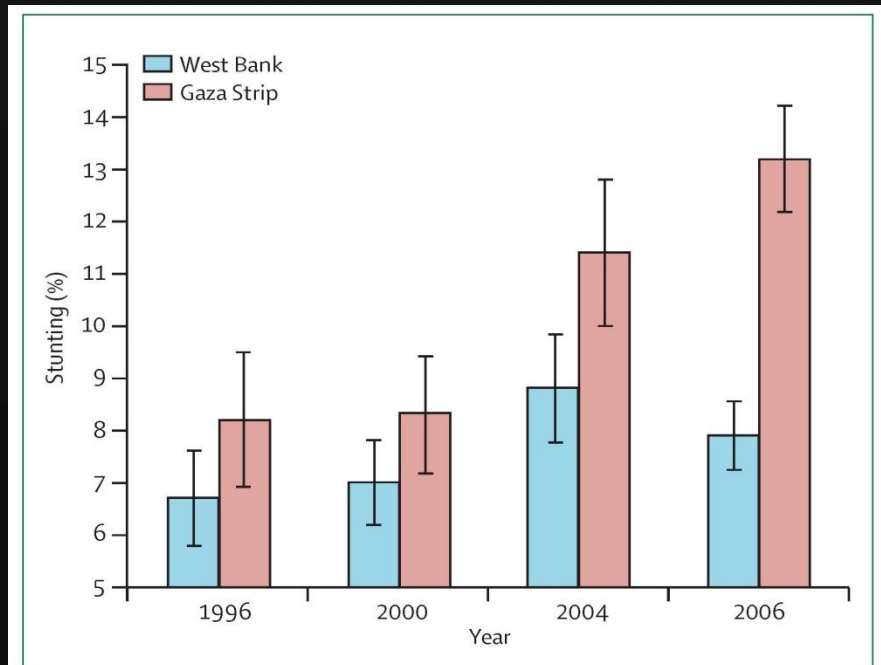
# Science vs Politics



**Figure 1: Historical overview of major events in the HIV and tuberculosis epidemics in South Africa, 1989-2007**  
 Data from references 1 and 11. ANC=African National Congress. ART=antiretroviral therapy. DOTS=directly observed treatment, short course. MDR=multidrug-resistant. NACOSA=National AIDS Convention of South Africa. SANAC=South African National AIDS Council. XDR=extensively drug-resistant. \*Dimethylformamide.



# Science vs Politics



**Figure 2: Stunting in children younger than 5 years in the occupied Palestinian territory by year and region**

Data from Palestinian Central Bureau of Statistics.<sup>1,69</sup> Stunting (height-for-age index) was determined by use of the international reference population defined by the US National Center for Health Statistics, as recommended by WHO and the US Centers for Disease Control and Prevention.<sup>37</sup> Children who were below  $-2$  SD from the reference median were classified as stunted, and those who were below  $-3$  SD from the reference median were classified as severely stunted.

# Estimation vs Speculation

## Health and Climate Change 6



### Public health benefits of strategies to reduce greenhouse-gas emissions: overview and implications for policy makers

Andy Haines, Anthony J McMichael, Kirk R Smith, Ian Roberts, James Woodcock, Anil Markandya, Ben G Armstrong, Diarmid Campbell-Lendrum, Alan D Dangour, Michael Davies, Nigel Bruce, Cathryn Tonne, Mark Barrett, Paul Wilkinson\*

Remaining ALRI, IHD, COPD DALYs in 2020  
Avoided DALYs  
Avoided COPD DALYs  
Avoided IHD DALYs  
Avoided ALRI DALYs

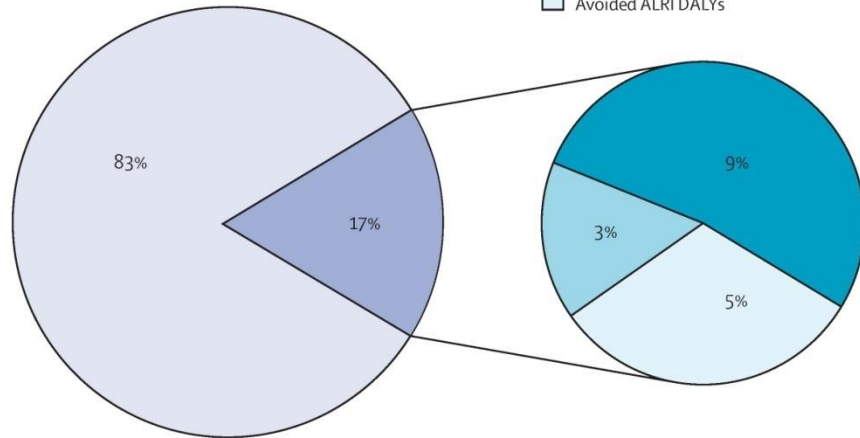


Figure 6: Health benefits of Indian stove programme after completion in 2020

Estimated disability-adjusted life-years (DALYs) from acute lower respiratory infection (ALRI), chronic obstructive pulmonary disease (COPD), and ischaemic heart disease (IHD) that could be avoided in India in 2020, compared with total DALYs for these diseases.

## NFU Blasts Ministers Simplistic Climate Change Call

2009-11-29 19:25:47

The NFU has criticised Ministers' apparent endorsement of the Lancet's report on health and climate change saying that it demonstrates poor judgement on their part. The report published today offers simplistic solutions without recognising the complex challenges the food system faces or the strategies and practical measures that the industry is developing with Defra. NFU President Peter Kendall said the Lancet report, which has been backed by a number of Ministers, was another example of Govern... Full Article at [MedicalNewstoday](#) »

## Whitehall turf war saves cows' hides

By James Landale

Deputy political editor, BBC News

Forget the Thick of It. The truth of what goes on in Westminster is always better than fiction.

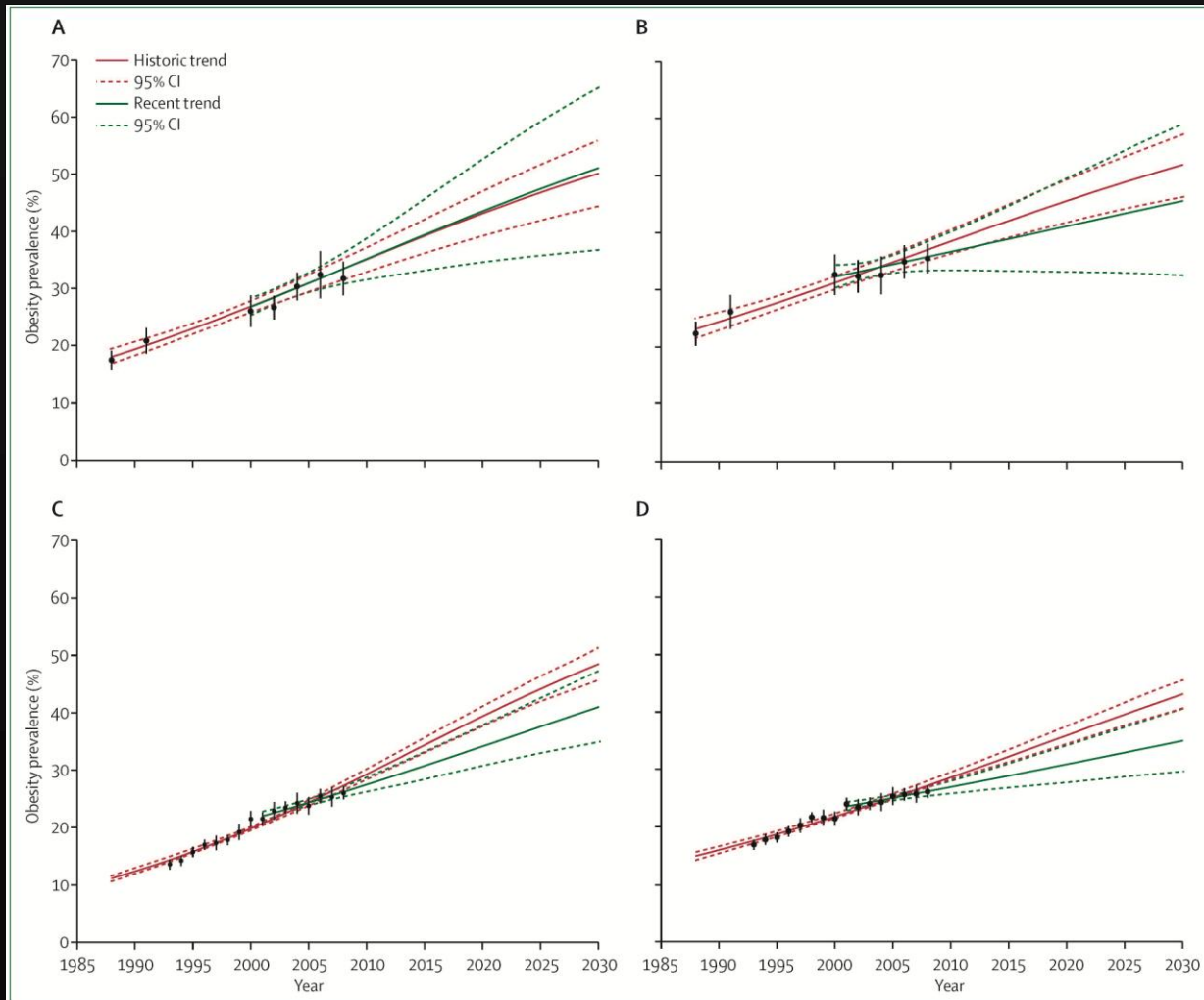
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# Estimation vs Speculation



**Figure 4: Historic and recent trends in adult obesity prevalence in men and women in USA and UK**

A=US men; B=US women; C=UK men; D=UK women. Black dots (bars=95% CI) show recorded prevalence from national surveys; each dot=one data point. Historic trend used all data points; recent trend used data points after 2000.

**SILENCE IS A POWERFUL ENEMY OF  
SOCIAL JUSTICE**

**THE ROLE OF INFORMATION AND  
COMMUNICATION IN ADVANCING  
GLOBAL HEALTH IS  
UNDERESTIMATED**

**THERE IS NO AGREEMENT ABOUT THE  
PURPOSE OF GATHERING OR  
GENERATING STATISTICS FOR  
GLOBAL HEALTH**



**SCIENCE IS NOT ABOUT TRUTH; IT IS  
ABOUT UNCERTAINTY**

**NONE OF US – SCIENTISTS,  
REVIEWERS, EDITORS – CAN EVER BE  
FULLY IMPARTIAL OR UNBIASED**

**NON-FINANCIAL CONFLICTS OF  
INTEREST ARE OFTEN MORE  
IMPORTANT THAN FINANCIAL  
CONFLICTS OF INTEREST**

**STATISTICS AND THEIR PUBLICATION  
ARE A NEGOTIATION ABOUT THE  
SCOPE OF A PARTICULAR CLAIM**

**THEY ARE ALSO A NEGOTIATION  
ABOUT POWER**

**SOME (MAYBE EVEN MANY)  
SCIENTISTS ARE OFTEN DEEPLY  
RESISTENT TO CRITICISM**

**PEER REVIEW CAN MAKE CRITICAL  
CONTRIBUTIONS TO GLOBAL HEALTH  
SCIENCE, BUT IT IS NOT A PANACEA**

**ALL OF US (YOU AND I) SHOULD PAY  
GREATER ATTENTION TO RESEARCH  
METHODS, THEIR PURPOSE, THE  
SKILLS THAT ARE NEEDED, THEIR  
EVIDENCE BASE, AND WHAT THEY  
CAN AND CANNOT DO**

**METHODS ARE EXCITING  
(BELIEVE IT OR NOT)**

**SCIENCE IS MORE IMPORTANT  
THAN COMMUNICATION**

**BUT SCIENCE DEPENDS UPON  
COMMUNICATION FOR ITS FULL  
EFFECT**

**LIVES DEPEND UPON IT**