



Women's
College
Hospital



Increasing value and reducing waste:
Addressing inaccessible research

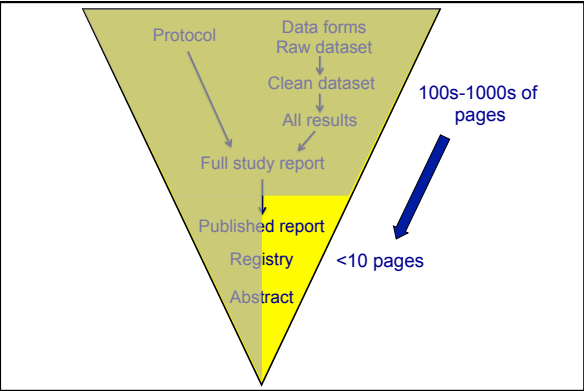
January 8, 2014

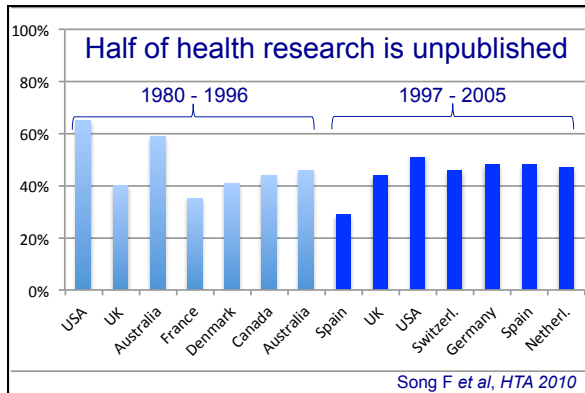
An-Wen Chan, MD DPhil
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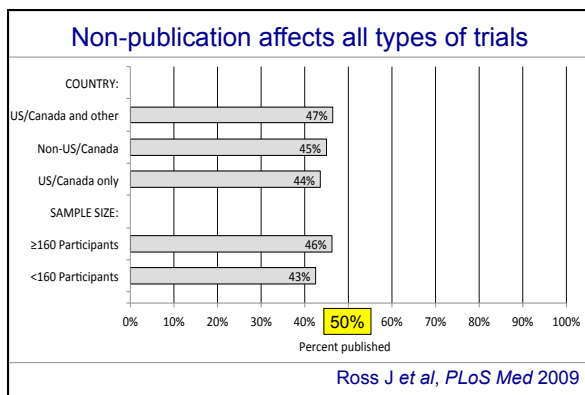


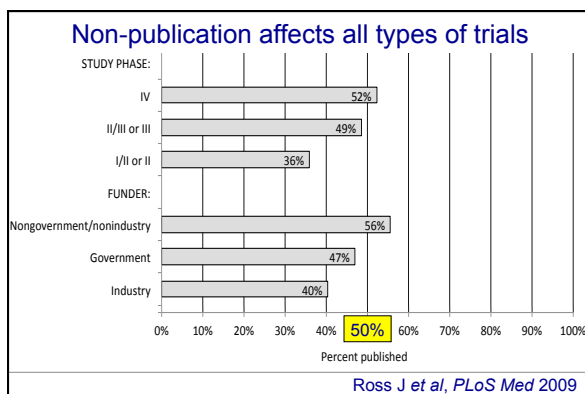
“When I had to decide whether to have a 2nd bone marrow transplant, I found there were four trials that might have answered my questions, but I was forced to make my decision without knowing the results because, although the trials had been completed some time before, they had not been properly published! I believe that research results must be seen as a public good that belongs to the community – especially patients.”

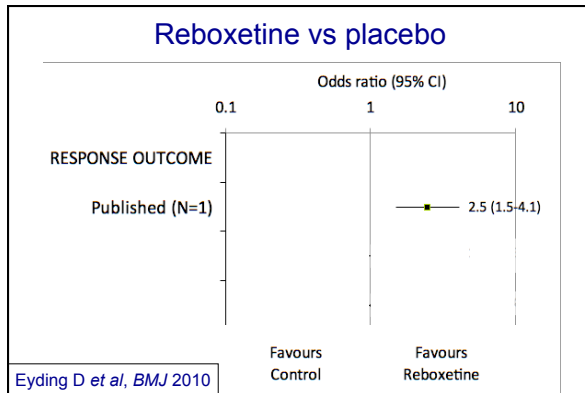
Alessandro Liberati, 2010

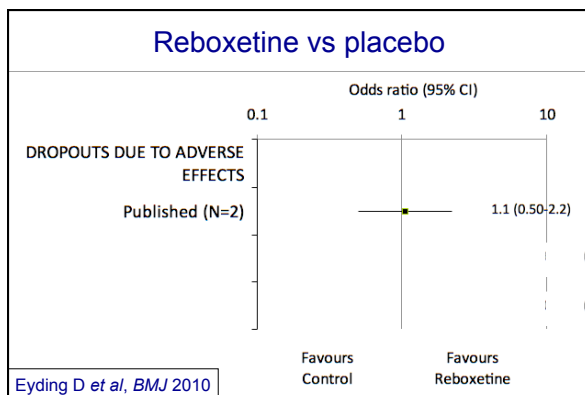


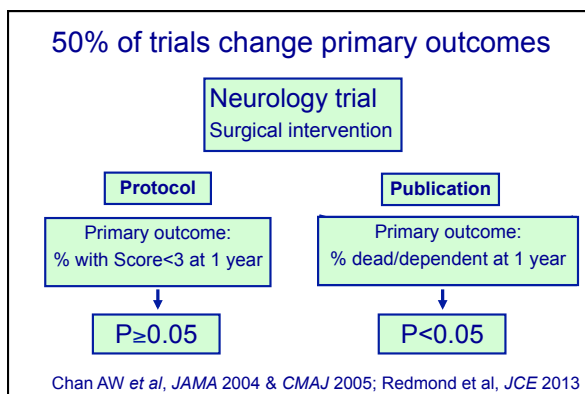


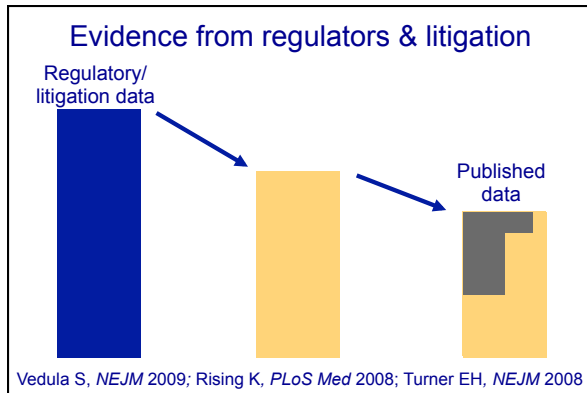














Patient morbidity and deaths

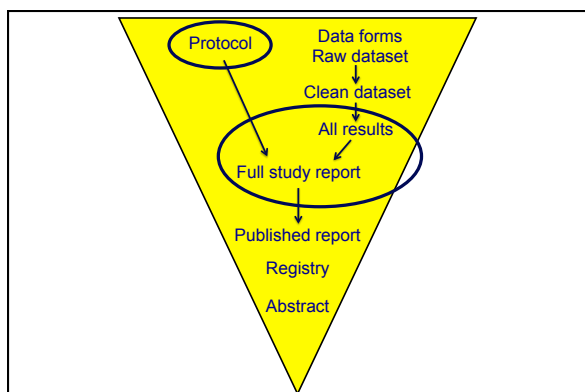
Rofecoxib	100,000 heart attacks in 1999-2004 (US)
Lorcainide	50,000 deaths per year in 1980s (US)



\$\$\$ Billions wasted



- EU-funded health research from 1998-2006
 - 6 billion Euros → 50% unpublished
Galsworthy MJ et al, Lancet 2012
- Gabapentin
 - \$2 billion in 2002 in US → 94% for off-label uses
Vedula S et al, NEJM 2009; Trials 2012



Access to protocols & full study reports

- Appraisal of study methods
- Identification of selective reporting
- Inform clinical care and future research

Discrepancies in eligibility criteria

32 academic HIV RCTs published in 1994-2004:

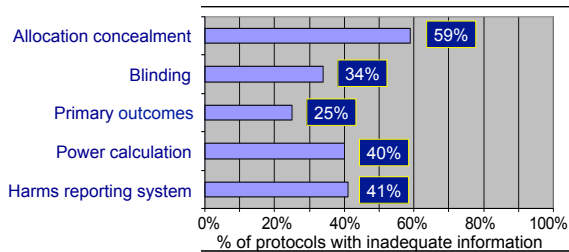
- Perception of 40% greater inclusivity based on published eligibility criteria

Gandhi M *et al*, *AIDS* 2005
Blümle A *et al*, *BMJ* 2011

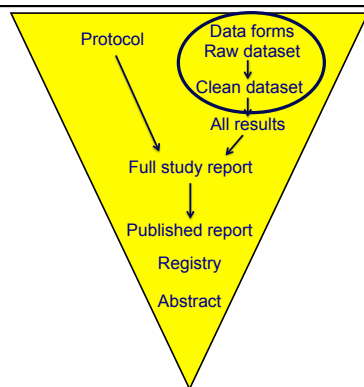
Current landscape

- Protocols and full study reports
 - Not publicly available
 - Variable quality
 - Variable standards

Protocols lack important information



Hróbjartsson A *et al*, *J Clin Epid* 2009; Chan AW *et al*, *BMJ* 2008, *JAMA* 2004; Scharf O, *J Clin Oncol* 2006; Pildal J *et al*, *BMJ* 2005; Soares HP *et al*, *BMJ* 2004.



Benefits of sharing participant-level data

- Independent re-analysis
- Testing of secondary hypotheses
- Increased power of meta-analysis

The Economist

The Chronicle NEWS SPORTS OP

Misconduct in science

An array of errors Potti falsified research data

- High-profile genomic research at Duke University for lung, colon, breast, ovarian cancers (2006-9)
 - Public dataset
 - Led to clinical trials of personalised cancer therapy
- Fraudulent data manipulation detected by independent researchers
 - >10 journal articles retracted

Current landscape

- Data sharing remains rare
 - Even when well-accepted (genomics) or mandated
- Multiple barriers
 - Time and effort to prepare annotated data sets
 - Lack of standard guidance for best practices

Recommendation 1 – Incentives

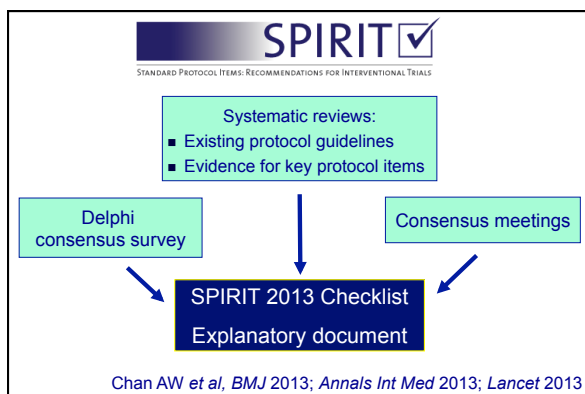
Adopt performance metrics recognising full dissemination

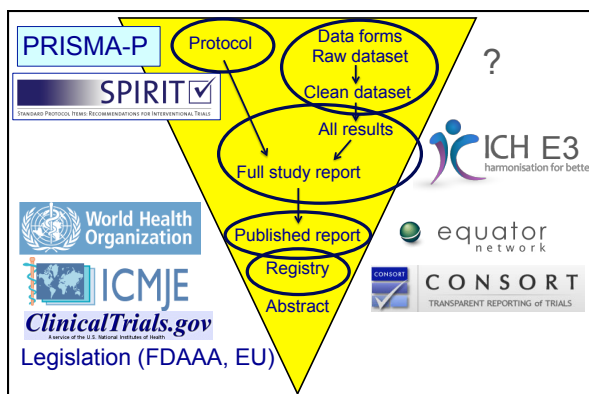
- % of funded/approved studies that are published
- % of protocols, full study reports, and datasets that are made available
- Dataset re-use by external researchers

Recommendation 2 – Best practices

Develop & adopt standards for protocols, full study reports, & data sharing

- Systematic development
- Adoption by investigators, funders, sponsors, regulators, research ethics committees, journals





Recommendation 3 – Adherence mechanisms

Enforce study registration, access to protocols & full study reports, and data sharing for all health research

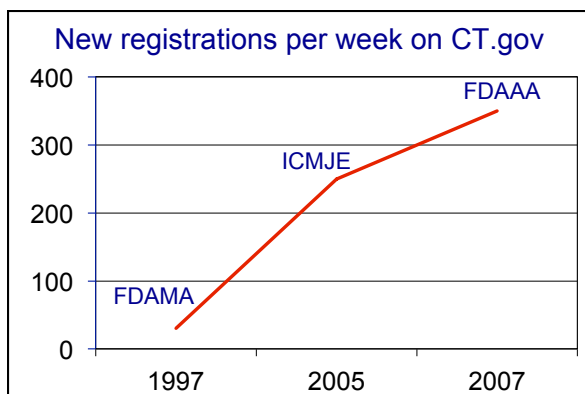
- Endorsement and enforcement by funders, sponsors, regulators, research ethics committees, journals, legislators

NHS Health Research Authority

- Requires registration of all UK clinical trials as condition of ethics approval

NIHR Health Technology Assessment programme

- Publishes own journal
- Withholds 10% of funds
- 98% publication rate for completed studies



Conclusions

- Majority of information on health research is inaccessible
- Impact on science, policy, patient care
- Action needed from key stakeholders
 - Incentives
 - Standards
 - Adherence mechanisms

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