LETTERS

Letters are selected from rapid responses posted on thebmj.com. After editing, all letters are published online (www.bmj.com/archive/sevendays) and about half are published in print
To submit a rapid response go to any article on thebmj.com and click "respond to this article"

PUBLISHING SURGEONS' DEATH RATES

Publishing performance data is an ethical obligation

The article by Westaby dealing with publication of surgical mortality data is at best a superficial examination of the issue and at worst misleading.[1] The evidence has been irrefutable for many years that the collection and feedback of risk adjusted mortality data will reduce death rates by as much as 40% in cardiac surgery and other specialties. The problem of "gaming" cardiac surgery outcomes by avoiding high risk patients was proposed and investigated at the time of the initial publication of the results and no evidence was found to support the assertion.[2] More recently it has been suggested that without the knowledge of their own mortality or complication rates and those of their colleagues it is not possible for surgeons to obtain full informed consent from their patients.[3] Thus, complication and death rates become a tool for continuous quality improvement, patient information, and informed consent rather than a stick with which to beat the surgeon.

If institutional factors, such as availability of equipment, contribute to poor outcomes this must be flagged by appropriate incident reporting and if necessary open disclosure to the patient or family. In this situation, the contribution of risk adjusted outcomes remains valuable and report cards fulfil this requirement.[4] I understand Westaby's concerns about a bureaucratic reliance on performance data from one group (surgeons) alone, and I have tried to recommend that performance data in all specialties should be collected to optimise performance in all areas of healthcare activity. I will repeat that this is not merely a lofty professional goal but an "ethical obligation."[5]

Stephen N Bolsin specialist anaesthetist, Geelong Hospital, Geelong, VIC 3220, Australia
steveb@barwonhealth.org.au
Mark Colson specialist anaesthetist, St John of God Geelong Hospital, Geelong
Competing interests: None declared.
Full response at: www.bmj.com/content/349/bmj.g5026/rr/762966.

1 Westaby S. Publishing individual surgeons' death rates prompts risk averse behaviour. *BMJ* 2014;349:g5026. (12 August.)
2 Hannan EL, Siu AL, Kumar D, Racz M, Pryor DB, Chassin MR. Assessment of coronary artery bypass graft surgery performance in New York: is there a bias against taking high-risk patients? *Medical Care* 1997;35:49-56.
3 Clarke S, Oakley J. Informed consent and surgeon's performance. *J Med Philosophy* 2004;29:11-35.
4 Bolsin SN, Freestone L. Report cards and performance monitoring. In: Clarke S, Oakley J, eds. *Informed consent and clinician accountability*. First ed. Cambridge University Press, 2007:91-105.
5 Bolsin S. Quality and safety in healthcare—a challenge accepted. *Anaesthesia* 2014;69:1051-2.

Cite this as: *BMJ* 2014;349:g6030

Author's reply

Writing from Australia, Bolsin and Colson want to retain focus on surgeon culpability. Bolsin should have disclosed that he was the anaesthetist who triggered the Bristol Inquiry. For the sake of the profession as a whole we need to shake off the legacy of the inquiry. Hospital infrastructure, clinical processes, and failure to rescue are now the principal determinants of postoperative outcome.[1 2] To hold an individual surgeon responsible for all deaths is misleading and has legal implications.[3] It is equivalent to blaming airline pilots for engine failure after a bird strike.

After multiple suspensions of individuals and paediatric units, cardiothoracic surgery is regarded as a hazardous career and lifestyle choice. Fifty five per cent of UK medical graduates, but only 5% of cardiothoracic surgeons are women.[4] Recruiting suitable candidates to cardiothoracic surgery for specialty training year 3 posts is problematic, and many newly accredited surgeons find independent practice intimidating in the prevailing environment. The reality is that 55% of congenital heart surgeons, almost 50% of thoracic surgeons, and 35% of adult cardiac surgeons are overseas graduates. This profile is strikingly different from before surgeon specific mortality data and the Safe and Sustainable process.[5]

Some congenital heart units have no UK graduate surgeons, suggesting that a whole generation has already been lost to the specialty. Surgeon specific mortality data is beginning to affect other surgical specialties with similar impact. Therefore, the risks versus benefits of the "name and shame" culture should be carefully reconsidered.

Stephen Westaby consultant cardiac surgeon, Oxford, UK swestaby@ahf.org.uk
Competing interests: I was a member of the Society of Thoracic Surgeons US and American College of Cardiology during the outcome disclosure debate.

1 Gonzalez AA, Dimick JB, Birkmeyer JD, Ghaferi AA. Understanding the volume-outcome effect in cardiovascular surgery. The role of failure to rescue. *JAMA Surg* 2014;149:119-23.
2 Ferraris VA, Bolanos M, Martin JT, Mahon A, Saha SP. Indentification of patients with postoperative complications who are at risk of failure to rescue. *JAMA Surg* 2014, doi:10.1001/jamasurg.2014:1338.
3 Society for Cardiothoracic Surgery in Great Britain and Ireland. UK surgeons' results. www.scts.org/modules/surgeons/default.aspx
4 Peters K, Ryan M. Machismo in surgery is harming the specialty. http://careers.bmj.com/careers/advice/view-article.html?id=20017462
5 Safe and Sustainable Independent Reconfiguration Panel 2013. www.irpanel.org.uk.

Neurosurgical National Audit Programme has been set up

We agree with Westaby's views on publishing individual surgeons' death rates.[1] In April, the Society of British Neurological Surgeons launched the Neurosurgical National Audit Programme (NNAP)—a comprehensive audit of elective and non-elective neurosurgical services. The NNAP has been mandated by NHS England to publish surgeon and unit level death rates in the 2014 Consultant Outcome Publication. Through the NNAP, neurosurgeons have undertaken a major review and validation of the NHS England 2012-13 hospital episode statistics dataset.

The hospital episode statistics attribution of deaths to individual consultant neurosurgeons is fraught with problems, including deaths after procedures undertaken by consultants in other specialties and even deaths where coding to neurosurgery is simply expedient. More than half of neurosurgical activity is non-elective. Much of it relates to the admission of patients for emergency investigations that are not available in district general hospitals; to the assessment of critically ill patients for whom no intervention might then be deemed appropriate; and to the care of patients with irreversible intracranial pathology from the outset. Death in a neurosurgical unit is not necessarily an indicator of poor care and might, paradoxically, reflect high quality services.

Developing risk adjustment methods tailored to neurosurgery's complex case mix and clinical pathways is challenging. Against this background neurosurgeons remain anxious that publication of non-elective mortality rates will not represent fairly the quality of care they provide and would promote risk averse behaviour. Colleagues in

allied disciplines have expressed concern that neurosurgeons might not accept patients for palliative care.

The NNAP will publish risk adjusted consultant elective procedural death rates and unit whole practice death rates on 1 December. We view these to be basic quality assurance measures. We agree with Westaby that the real benefits of national audits will only be realised when we are able to apply more sensitive and specific outcome measures to quality improvement.

Richard Nelson past president and chair, Neurosurgical National Audit Programme
admin@sbns.org.uk
Richard Kerr president
Paul May vice president
Neil Kitchen secretary
Alistair Jenkins treasurer, Society of British Neurological Surgeons, London WC2A 3PE, UK

Competing interests: None declared.

Full response at: www.bmj.com/content/349/bmj.g5026/rr/762788.

1 Westaby S. Publishing individual surgeons' death rates prompts risk averse behaviour. *BMJ* 2014;349:g5026. (12 August.)

Cite this as: *BMJ* 2014;349:g6025

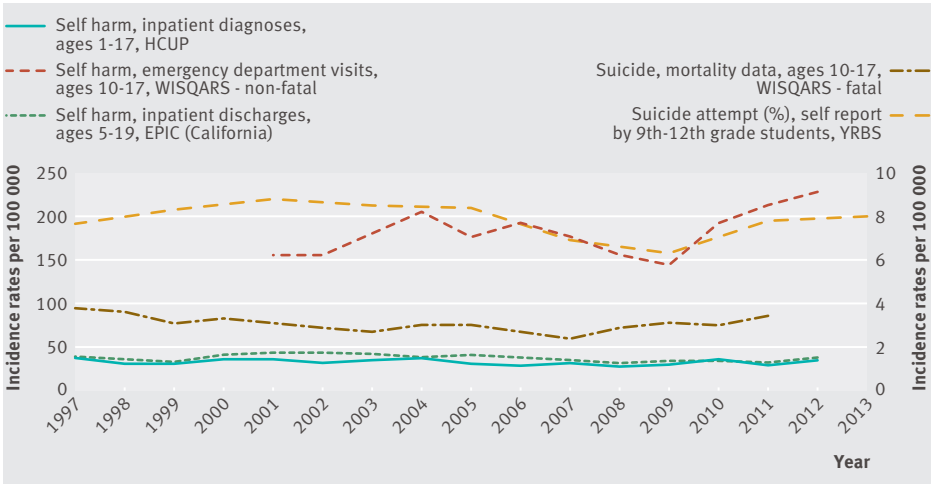
ANTIDEPRESSANTS AND FDA WARNINGS

Link between FDA warnings and increased suicide questionable

Lu and colleagues hypothesised that US Food and Drug Administration antidepressant safety warnings reduced antidepressant prescribing and thereby increased suicide attempts in young people.[1] They investigated associations in three age groups between antidepressant prescribing before and after the warnings and suicide attempts, as measured by psychotropic poisonings in patients presenting to emergency departments or admitted to hospital. We question their conclusions that the FDA warnings were associated with significant reductions in antidepressant use and increases in suicide attempts among adolescents and young adults.

We doubt that poisoning by psychotropic drugs is a "validated proxy for suicide attempts." Only a minority of suicide attempts in young people involve such drugs. Most self harm injuries in young people do not involve poisoning,[2] only roughly half of emergency visits for psychotropic poisonings are intentional,[3] and not all intentional self harm in young people reflects suicidal intent.[4]

The authors reported large "declines" in antidepressant use relative to forward projection of trends before the FDA warning, when antidepressant use had been increasing. In absolute terms, however, they found only a modest decrease in the fraction of adolescents receiving antidepressants, and essentially no change in the fraction of young adults and adults. Yet the hypothesis of increases in suicidality is premised on absolute declines in antidepressant use, not declines relative to a hypothetical projection.



Rates of suicidal behaviour in young people, 1997-2012, various data sources. All measures are expressed as US incidence rates per 100 000 age specific population, unless otherwise noted

A more plausible explanation is that the FDA warnings slowed previous growth in the rate of antidepressant treatment. In the following years, there was a substantial—but probably unrelated—increase in emergency department visits and hospital admissions related to increasing non-medical use of benzodiazepines, stimulants, and other psychotropic agents by young people.[5 6]

Mark Olfson professor of psychiatry, Columbia University Medical Center, New York, NY 10032, USA
mo49@columbia.edu
Michael Schoenbaum senior adviser for mental health services, epidemiology, and economics, National Institute of Mental Health , Bethesda, MD, USA

Competing interests: None declared.

Disclaimer: This letter does not necessarily reflect the opinions of the National Institute of Mental Health, the Department of Health and Human Services, or the US federal government.

Full response at: www.bmj.com/content/348/bmj.g3596/rr/702742.

1 Lu CY, Zhang F, Lakoma MD, Madden JM, Rusinak D, Penfold RB, et al. Changes in antidepressant use by young people and suicidal behavior after FDA warnings and media coverage: quasi-experimental study. *BMJ* 2014;348:g3596. (18 June.)
2 Centers for Disease Control and Prevention, National suicide statistics at a glance: percentage of self-harm injuries, by age group, disposition, and mechanism, United States, 2005-09. www.cdc.gov/violenceprevention/suicide/statistics/self_harm.html.
3 Xiang Y, Zhao W, Xiang H, Smith GA. ED visits for drug-related poisoning in the United States. *Am J Emerg Med* 2012;30:293-301.
4 Nock MK, Green JG, Hwang I, McLaughlin KA, Sampson NA, Zaslavsky AM, et al. Prevalence, correlates and treatment of lifetime suicidal behavior among adolescents: results from the National Comorbidity Survey Replication Adolescent Supplement. *JAMA Psychiatry* 2013;70:300-10.
5 Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. The DAWN report. Emergency department visits involving nonmedical use of the anti-anxiety medication alprazolam. 2014. www.samhsa.gov/data/2K14/DAWN153/sr153-alprazolam-2014.pdf.
6 Substance Abuse and Mental Health Services Administration, Center for Behavioral Health Statistics and Quality. The DAWN report. Emergency department visits involving nonmedical use of central nervous system stimulants among adults aged 18 to 34 increased between 2005 and 2011. 2013. www.samhsa.gov/data/spotlight/spot103-cns-stimulants-adults.pdf.

Cite this as: *BMJ* 2014;349:g5614

Are study findings a false alarm?

We question Lu and colleagues' findings that the prescription of antidepressants decreased and suicide attempts in young people increased after the Food and Drug Administration released warnings about antidepressant safety for two reasons.[1] Firstly, the measure they use as a proxy of suicide attempts (poisonings by psychotropics) is faulty and, secondly, more direct measures of attempts and deaths (figure) show no increase, on balance, after the FDA warnings.

The authors used poisonings by psychotropics (international classification of diseases, 9th revision (ICD-9) code 969) as a proxy for suicide attempts, but this measure includes both intentional and unintentional overdoses. The sole reference to this claim—a paper that two of us coauthored—in fact showed that in the US this code had a sensitivity of 40% and a positive predictive value of 67% (33% of the discharges it captured were not intentional self harm).[2]

Lu and colleagues' findings are contradicted by national data (figure). The Centers for Disease Control and Prevention's youth risk behaviour survey found a decline in high school students' self reported suicidal thoughts, plans, and attempts from 2000 to 2009 (with increases in more recent years).[3] Two national samples of hospital visits saw no increasing trend in self harm in young people after the 2003-04 FDA warnings.[4 5] California's EPIC website, which presents a census of inpatient discharges for the state,[6] recorded no increase in youth self harm throughout the 2000s. Most importantly, the national suicide mortality rate in young people was largely flat in 2000-10.[5]

On balance, the evidence shows no increase in suicide attempts or deaths in young people after the FDA warnings. It is important that we get this right; sounding unnecessary alarms does nothing to protect our young people.

Catherine Barber researcher
cbarber@hsph.harvard.edu
Deborah Azrael research scientist, Harvard Injury Control Research Center, Harvard School of Public Health, Boston, MA 02115, USA
Matthew Miller professor of health sciences and epidemiology, Northeastern University, Boston, MA, USA

Competing interests: None declared.

Full response at: www.bmj.com/content/348/bmj.g3596/rr/760706.

1 Lu CY, Zhang F, Lakoma MD, Madden JM, Rusinak D, Penfold RB, et al. Changes in antidepressant use by young people and suicidal behavior after FDA warnings and media coverage: quasi-experimental study. *BMJ* 2014;348:g3596. (18 June.)
2 Patrick AR, Miller M, Barber C, Wang PS, Canning CF, Schneeweiss S, et al. Identification of hospitalizations for intentional self-harm when E-codes are incompletely recorded. *Pharmacoepidemiol Drug Saf* 2010;19:1263-75.
3 Centers for Disease Control and Prevention. Youth Risk Behavior Surveillance System. Trends in the prevalence of suicide-related behaviours. National YRBS: 1997-2011. www.cdc.gov/healthyyouth/yrbs/pdf/us_suicide_trend_yrbs.pdf.
4 Healthcare Cost and Utilization Project. National inpatient sample. Agency for Healthcare Research and Quality. http://hcupnet.ahrq.gov/.
5 Centers for Disease Control and Prevention. Web-based Injury Statistics Query and Reporting System (WISQARS). 2003. www.cdc.gov/ncipc/wisqars.
6 California Office of Statewide Health Planning and Development, Inpatient Discharge Data. California Department of Public Health, Safe and Active Communities Branch. Available online at: http://epicenter.cdph.ca.gov.

Cite this as: *BMJ* 2014;349:g5645

Authors' reply

Public health efforts to understand and reduce suicide risk depend on accurate data. The varying use of cause of injury codes across and within health systems over time motivated us to use a proxy measure for suicide attempts.

Olfson and Schoenbaum question its sensitivity, citing US national data showing that sensitivity is likely to be no more than 50%. The use of these data is problematic, however, given the inconsistent use of cause of injury codes. We found that in three of our research network health systems that use them regularly the proportion of suicide attempts across age groups ranged from roughly 30% to 60%. A sensitivity of 30% to 60% means that this proxy measure would not be appropriate for estimating prevalence, and reduced sensitivity would reduce statistical power for detecting changes over time, although it would not bias our interrupted time series analysis.

Olfson and Schoenbaum also say that only a small proportion of emergency department visits for poisoning involve psychotropic drugs. Their data, however, concern intentional poisoning rather than self inflicted poisoning.

More important for our study is the question of positive predictive value (PPV)—the proportion of psychotropic poisonings that are intentional overdoses according to cause of injury code. In three of our member health systems where these codes are used regularly. PPVs ranged from 35% to 80% across age groups, and from 62% to 80% in adolescents.

Psychotropic poisoning is an imperfect proxy for suicide attempts and its use might reduce the sensitivity of our methods. However, this proxy measure is preferable to cause of injury codes in settings where code usage varies over time.

We considered the additional national data provided by Barber and colleagues. However, data on self harm from WISQUARS-non-fatal emergency department visits (ages 10-17) seem to show spikes in years 2004 and 2005, which coincided with the timing of the FDA warnings, but without longer baseline data and appropriate statistical analysis we could not draw definitive conclusions. Our figure on completed suicides in adolescents shows a similar pattern to Barber and colleagues, which is based on the WISQARS-fatal website. We are not aware that measures from the youth risk behaviour survey have been validated.

Christine Y Lu instructor, Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, MA, USA
christine_lu@harvardpilgrim.org
Gregory Simon senior investigator, Group Health Research Institute, Seattle, WA, USA
Stephen B Soumerai professor, Department of Population Medicine, Harvard Medical School and Harvard Pilgrim Health Care Institute, Boston, MA, USA

Competing interests: GS has received research grants from Otsuka Pharmaceuticals.

Full responses at: www.bmj.com/content/348/bmj.g3596/rr/702921 and www.bmj.com/content/348/bmj.g3596/rr/761177.

Cite this as: *BMJ* 2014;349:g5722

SMARTPHONES *v* BOOKS

Help us to engage with text on smartphones better than books

Contrary to Tobin's personal view article,[1] I have not found that textbooks hold my attention more than articles on a tablet computer. Mostly it depends on how interesting the article is, and how tired I am. Distractions are everywhere, not hard to find.

I read the new issue of *The BMJ* on my electronic tablet because the paper journal has not arrived. I am reading more on my tablet as I have just started a new course of study. It would not be possible for me to read everything in books or on paper.

If research is telling us that reading on screens is less effective, then we need to address this. Screens are not going away: there is no going back now. How can we make electronic devices as good as (or better than) weighty textbooks?

We need to engage with the text whether on paper or screen. Complaining about new technology is not an option.

Ruth L Evans general practitioner, Wallsend NE28 6BB, UK Ruth.evans@nhs.net

Competing interests: None declared.

1 Tobin MJ. Put down your smartphone and pick up a book. *BMJ* 2014;349:g4521. (8 July.)

Cite this as: *BMJ* 2014;349:g6038

What about environmental gain of reading with a smartphone?

In his article about the supposed cognitive benefits of reading printed books, Tobin neglects an important issue.[1] The possible environmental cost of doctors reading printed media is significant. Worldwide the paper industry is the fifth largest consumer of energy accounting for 4% of total global energy use.[2] The average consumer using ebooks instead of buying print versions could save an estimated total of 1074 kg carbon dioxide over four years.[3] If this figure was applied to every doctor in the world, each of whom is likely to consume more media than the average consumer, the energy savings would be tremendous.

Climate change has been described as the greatest public health challenge this century,[4] and doctors have been urged to be ecologically responsible.[5] We contend that the possible environmental impact of printed books and journal articles more than negates any of their cognitive benefits. Doctors should therefore continue to use their smartphones and computers to access reading material.

David King clinical lecturer in paediatrics
davidanthonyking@gmail.com
Will Daw clinical research fellow
Robert Morton clinical fellow in management and leadership, Academic Unit of Child Health, Sheffield Children's Hospital, Sheffield S10 2TH, UK

Competing interests: We all use smartphones to access journal articles and ebooks.

1 Tobin MJ. Put down your smartphone and pick up a book. *BMJ* 2014;349:g4521. (8 July.)
2 Rosenfeld PE, Cheremisinoff NP. Handbook of pollution prevention and cleaner production. Vol 2. Best practices in the wood and paper industries. Elsevier, 2009.
3 Ritch E. The environmental impact of Amazon's Kindle. CleanTech Group, 2009.
4 Costello A, Abbas M, Allen A, Ball S, Bell S, Bellamy R, et al. Lancet and University College London Institute for Global Health Commission. Managing the health effects of climate change. *Lancet* 2009;373:1693-733.
5 Chivian E. Why doctors and their organisations must help tackle climate change: an essay by Eric Chivian. *BMJ* 2014;348:g2407.

Cite this as: *BMJ* 2014;349:g6039