as likely to have free online copies elsewhere online as articles from non-open access journals. What's puzzling is that authors would provide open access for articles that were already open access. One possibility is that this is still self advertising. Authors may put copies where they are more likely to be seen, even if existing copies sufficed for readers who ran searches or knew where to look. Another possibility is that the free online copies were posted by readers, not by authors. When I've found readers copying and reposting my own articles, some told me that they wanted more assured access, not knowing how long the originals would remain freely available.

Some journals deposit their own articles in open access repositories to assure their long term preservation and accessibility. But Wren's study included only one journal—the *BMJ*—with such a policy. Hence, author and reader deposits will still have to account for the bulk of the free online copies that Wren studied. Wren's data show a steady upward trajectory over the past decade for open access copies of journal articles retrievable by Google searches, his most encouraging result. This suggests that author self archiving is increasing, reader reposting is increasing, or "link rot" is making older copies less visible—most likely some of each.

One way that Wren summarises his conclusion needs some elaboration. He says, "Decentralised sharing of scientific reprints through the internet creates a degree of de facto open access that, though highly incomplete in its coverage, is none the less biased towards publications of higher popular demand." This is accurate but may leave the impression that most high demand articles are open access somewhere, when all we know so far is that most open access articles in the set he studied were high demand. It's possible that the vast

majority of high demand articles are not yet open access, and indeed this seems likely. Most publishing scientists do not yet self archive their work and their reasons seem entirely unrelated to the demand, impact, or quality of their work—that is, they know too little about self archiving or believe they are too busy.

This is important because we ought to use Wren's results to understand why authors self archive and how to appeal to authors who don't. One lesson is that existing open access is demand driven to some degree. But this doesn't mean there is little or no unmet demand. On the contrary, unmet demand may be the norm, just as the sale of food is demand driven while the unmet demand exists in catastrophic proportions.

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- 1 Wren J. Open access and openly accessible: a study of scientific publications shared on the internet. *BMJ* 2005;330:1128-31.
- 2 University of Michigan Digital Library Production Service (OAISTER). <http://oaister.umdl.umich.edu/o/oaister/viewcolls.html> (accessed 5 May 2005).
- 3 eprints.org sites at Southampton serving Open Archives. *Summary statistics so far*. <http://romeo.eprints.org/stats.php> (accessed 6 May 2005).
- 4 Carr L, Harnad S. *Keystroke economy: a study of the time and effort involved in self-archiving, a preprint*. Southampton, 2005. <http://eprints.ecs.soton.ac.uk/10688/> (accessed 6 May).
- 5 Hitchcock S, on behalf of the Open Citation Project. *The effect of open access and downloads (hits) on citation impact: a bibliography of studies*. Southampton, 2005. <http://opciteprints.org/oacitation-biblio.html> (accessed 6 May 2005).
- 6 Harnad S. Fast-forward on the green road to open access. *Ariadne*, January 2005. <http://arxiv.org/ftp/cs/papers/0503/0503021.pdf> (accessed 6 May 2005).
- 7 Rowlands I, Nicholas D, Huntingdon P. *Scholarly communication in the digital environment: what do authors want?* London: CIBER, 2004. <http://opciteprints.org/oacitation-biblio.html> (accessed 6 May).
- 8 Swan A, Brown S. Authors and open access publishing. *Learned Publishing* 2004;17(3):219-24. <http://cogprints.org/4123> (accessed 6 May 2005).

Monitoring surgical mortality

Scottish scheme has worked well but may not be transferable to other settings

Should surgical mortality be routinely monitored? In this issue Thompson and Stonebridge present a compelling argument for systematic audits (p 1139)¹ and Esmail, in the first part of a new series on the General Medical Council and revalidation, argues that doctors will have nothing to fear from the GMC's revised plans (p 1144).²

The Scottish Audit of Surgical Mortality is a voluntary, peer reviewed, critical event analysis that has become an established part of standard surgical practice in Scotland. Scottish surgeons have shown tremendous support for the programme—99% of surgeons participate and 91% of deaths under surgical care in Scotland are audited. They support the scheme perhaps because it seems to be effective. After errors in specific processes of care (failure to use intensive care units and failure to use prophylaxis for deep venous thrombosis) were identified by the scheme as contributing to surgical deaths, system-wide changes occurred and the frequency of such errors greatly declined.

The potential effectiveness of a programme that focuses on death as the only critical event, however, may be limited. Although errors occur often in

medicine,³ errors contributing to death occur in only 6% of cases identified by Scottish Audit of Surgical Mortality. Errors that do not occur often or do not generally result in mortality are likely to be missed by such a programme. In addition, the focus of the programme on processes of care would indicate that feedback at the hospital level is at least as essential as feedback at the individual surgeon level.

The grassroots, clinician led model has worked well in Scotland but may not be easily transferable, particularly in settings where results of such a programme could have market influences. In the United States, most audits have taken the form of report cards where mortality (and in some cases morbidity) rates are calculated for a given procedure at the hospital or individual surgeon level, and the rates (generally adjusted for comorbidities) are compared between sites and surgeons. In such a system, attention is focused generally on the outliers who have poor results, with (in most cases) neither integrated analysis of the root cause nor any attempt to determine the processes of care that result in worse outcomes.

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In New York state, adjusted mortality rates for cardiac surgery have been publicly disseminated since 1990. Although some evidence exists that this programme has resulted in a lower than expected cardiac surgery mortality rate for the state, what is not clear is if public dissemination of the information was necessary. Few patients who have bypass surgery are aware of the publicly available mortality rates of their surgeon or hospital.⁴ Even when they do know the rates, other factors may be more important. The hospital chosen by Bill Clinton for coronary bypass surgery, for example, had the highest mortality rate for this procedure in New York state in 2001, the most recent results available to Mr Clinton at the time of his surgery.⁵ For non-cardiac procedures, most hospitals do not have sufficient case loads to compare reliably mortality at the individual hospital (let alone surgeon) level.⁶

Publication of mortality audits in this setting serves little purpose—other than, perhaps, to create a false sense of doing something to improve quality. In fact, the underlying assumption of report card programmes may be misguided; clinically significant errors are committed

at all institutions and by all surgeons, not just by the outliers with poor results. To build a framework for trust, the development and systematic adoption of effective methods to minimise errors for every patient must be a priority of the entire surgical community.

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- 1 Thompson AM, Stonebridge PA. Building a framework for trust: critical event analysis of deaths in surgical care. *BMJ* 2005;330:1139-43.
- 2 Esmail A. GMC and the future of revalidation. Failure to act on good intentions. *BMJ* 2005;330:1144-7.
- 3 Committee on Quality of Health Care in America, Institute of Medicine. *To err is human: building a safer health system*. Washington, DC: National Academy Press, 2000.
- 4 Schneider EC, Epstein AM. Use of public performance reports. A survey of patients undergoing cardiac surgery. *JAMA* 1998;279:1638-42.
- 5 Altman LK. Clinton surgery puts attention on death rate. *New York Times* 6 Sep 2004;section A:1.
- 6 Dimick JB, Welch HG, Birkmeyer JD. Surgical mortality as an indicator of hospital quality. The problem with small sample size. *JAMA* 2004; 292:847-51.

Global functions at the World Health Organization

WHO must reassert its role in integrating, coordinating, and advancing the worldwide agenda on health

Delegates from the World Health Organization's 191 member states convene in Geneva this week to review WHO's proposed 2006-7 budget and to prioritise the organisation's core functions. This is a good time, therefore, to consider the optimal balance that WHO could strike between its global role in advocacy, surveillance, standard setting, and research as compared with its more operational work in specific countries and regions.

Accelerating globalisation has changed dramatically the context in which WHO works, offering both opportunities and challenges for health and its distribution.¹ The transfer of knowledge and technology and the sharing of best practices, treatments, and health strategies provide real benefits to previously unserved populations.² All countries can benefit from international standards for health and sustained advocacy on their behalf. Globalisation can also benefit health indirectly, promoting gender equality³ and human rights⁴ and better prospects for trade, information technology, and economic growth.⁵

But globalisation has also hastened the spread of infectious diseases. Moreover, aspects of global business have promoted unhealthy behaviours, such as eating unhealthy diets and using tobacco. And a major concern with globalisation remains inequalities in health⁶ and other economic and social indicators,⁷ both within and among countries.

WHO's work and functions are defined by its constitution and can be categorised as global, national, and intranational. Worldwide, WHO can set standards, develop and run international initiatives, provide professional management, manage financial transfers, and build scientific research capacity. It can also

Combat tuberculosis locally, but don't forget the W in WHO stands for World

promote public health goods for the benefit of all. These goods include leadership and advocacy for health, instruments to protect bioethics and human rights, methods for disease surveillance, and application of standards.⁸ Examples include WHO's leadership in developing the International Code of Marketing of Breastmilk Substitutes and the Framework Convention on Tobacco Control.