

Postoperative serious adverse events in a teaching hospital

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TO THE EDITOR: The article by Bellomo et al,¹ with its alarmist conclusions, received a lot of media attention. However, the authors' methodology is flawed and their conclusions are unsupported by their data. They describe postoperative adverse events in a group of largely elderly patients (median age, 65.5 years) who stayed in hospital more than 48 hours after inpatient surgery. These selective criteria were used "to exclude patients having day surgery or minor procedures".

Stratifying the severity of operations according to duration of stay is fundamentally flawed. This would have excluded many major, short-stay operations if the patient had had an uneventful postoperative course (eg, laparoscopic cholecystectomy and complex endoscopic procedures), and included others simply because a complication prolonged the patient's stay. The result is a selective bias towards a high complication rate. A more valid approach would have been to stratify *all* inpatient operations by severity and to include *all* major operations in the denominator for the study. This strategy would undoubtedly have shown significantly lower complication and mortality rates than those reported by Bellomo et al.

The "silent epidemic" referred to in the study is neither silent nor an epidemic. An *epidemic* refers to a disease normally absent but liable to outbreaks. What the authors describe is an *endemic* situation (habitually present, of common occurrence); it is quite obvious and already extensively documented. Elderly patients undergoing major operations (especially in an emergency — "unscheduled surgery" in the authors' pejorative lexicon) are likely to have complications, and, when they do, need to stay in hospital longer.

The authors did not analyse whether the adverse events were preventable, and therefore they cannot justify their conclusion that "there is much scope for improving postoperative care".

1. Bellomo R, Goldsmith D, Russell S, Uchino S. Postoperative serious adverse events in a teaching hospital: a prospective study. *Med J Aust* 2002; 176: 216-218. □

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TO THE EDITOR: The information in the article by Bellomo et al,¹ which documents postoperative serious adverse events in a teaching hospital, contains no surprises; nor does it support some of the authors' conclusions. In 1995, the findings of the Quality in Australian Health Care Study² were immediately sensationalised by the press with the headline "Hospital errors kill 18 000 a year".³ The article by Bellomo and colleagues provoked similar predictable media sensation.

As acknowledged by the authors, the study addressed neither the causes of the serious adverse events, nor whether they were "preventable". Furthermore, the authors fail to show how their findings "suggest that there is much scope for improving perioperative care in our tertiary hospitals", or why "this is a 'silent' epidemic which requires urgent and systematic attention". However, in televised interviews, they made no effort to reduce the alarm expressed at the prevalence of errors.

They have invented a new designation of "unscheduled surgery" (which presumably refers to acute, urgent or emergency admissions), preferring a title that suggests an avoidable lack of scheduling. It is hardly surprising that this group of patients required most of the admissions to the intensive care unit for which no prior booking had been made.

It is unclear why the authors mention that "six of nine patients over 92 years of age

having hip surgery died". Again, one presumes that these operations were for hip fracture, a condition with 100% mortality if untreated. And why leave out patients aged between 90 and 92 years?

No amount of statistical manipulation conceals the bias that is obvious in their article. It might provide a media story, but it has minimal value for the critical reader.

1. Bellomo R, Goldsmith D, Russell S, et al. Postoperative serious adverse events in a teaching hospital: a prospective study. *Med J Aust* 2002; 176: 216-218.
2. Wilson R McL, Runciman WB, Gibberd RW, et al. The Quality in Australian Health Care Study. *Med J Aust* 1995; 163: 458-471.
3. Sweet M. Hospital errors kill 18,000 a year: study. *The Sydney Morning Herald* 1995; Nov 6. □

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IN REPLY: We thank Tracy and Hugh for the issues they raise. The goal of our study was to establish baseline information on the incidence of serious adverse events (SAEs) for use in subsequent intervention studies.¹ The data were needed for statistical power calculations. Our inclusion criteria were predefined, as is scientifically orthodox for any study. We chose to study a population of clinical relevance to inpatient medicine. Most simple procedures at our hospital require day admission with no overnight inpatient stay, so these were not relevant to our goals. Others may wish to study different patient populations and are free to do so.

In our opinion, there was no particular bias in our study, just accurate, prospective documentation of events. We used the term "unscheduled surgery" because it is verifiable and objective. An operational definition is necessary; otherwise, judgements about what is a true emergency (like judgements about what is preventable) are very dependent on observer bias. Nonetheless, according to our judgement, only 48 of 426 "unscheduled" operations were true emergencies. We wanted to identify groups that were at particular risk of death, hence the mention of patients over 92 years of age who had had hip surgery. Up to what level of expected postoperative mortality does it remain acceptable to perform major surgery in very elderly patients?

We stand by our opinion that we are dealing with a silent epidemic. It is silent because we could find no previous prospective studies of SAEs for all major operations published (in English) in the medical literature, and there was no systematic plan

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There should be no more than 5 references. The reference list should not include anything that has not been published or accepted for publication. Reference details must be complete, including: names and initials for up to 4 authors, or 3 authors et al if there are more than 4 (see mja.com.au/public/information/uniform.html#refs for how to cite references other than journal articles).

to tackle them. We use the term epidemic because (in the absence of objective documentation of rates of SAEs in the past) our impression is that this is a growing phenomenon, related to the increased use of major surgery in the elderly. We also consider that only the absence of SAEs would offer no scope for improvement. A rate of SAEs of 16.9% should, logically, offer much scope for improvement. Whether such improvement can be realised remains a matter for future interventional investigations.

1. Bellomo R, Goldsmith D, Russell S, Uchino S. Postoperative serious adverse events in a teaching hospital: a prospective study. *Med J Aust* 2002; 176: 216-218. □

Acute community-acquired meningitis and encephalitis

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TO THE EDITOR: The article on acute community-acquired meningitis and encephalitis by Beaman and Wesselingh¹ provides a comprehensive and up-to-date review of diagnostic and management issues relevant to general clinicians. However, the section on vaccines for preventing meningococcal C and pneumococcal diseases is not as contemporary. Contrary to the authors' statements that "a conjugate vaccine covering serogroup C [meningococcus] will be available in Australia shortly", and "a conjugate vaccine [for pneumococcus] is currently under trial in Australia", conjugate vaccines for both diseases are available and registered for use in Australia. Conjugate vaccines have the advantage that they can be used in children from six weeks of age and are expected to provide long-term protection.

Meningitec is a meningococcal group C conjugate vaccine approved for use in children from six weeks of age, adolescents and adults. Meningitec has been available from Wyeth Australia since October 2001, but is not part of the National Childhood Immunisation Scheme and, as such, can only be obtained on private prescription at present.

Prevenar (pneumococcal septavalent conjugate vaccine) is also approved for use and has been available from Wyeth Australia since January 2001. Prevenar is indicated for active immunisation of infants and children from six weeks to nine years of age against invasive disease, pneumonia and otitis media caused by *Streptococcus pneumoniae*.

1. Beaman MH, Wesselingh SL. Acute community-acquired meningitis and encephalitis. *Med J Aust* 2002; 176: 389-396. □

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IN REPLY: We thank Saltman for up-to-date information on Wyeth vaccines. Readers will appreciate that our article¹ was commissioned in January 2001, and the manuscript delivered in August that year, before the licensing of Meningitec. As the article discussed, group C meningococcus is a minority strain in most regions of Australia. Hence, the vaccine will not prevent most cases of what is already an uncommon disease. Conjugate pneumococcal vaccines should have much wider application in the future, but currently are subsidised for use in only a minority of the at-risk population.

1. Beaman MH, Wesselingh SL. Acute community-acquired meningitis and encephalitis. *Med J Aust* 2002; 176: 389-396. □

Short-term effectiveness of bupropion for assisting smoking cessation in general practice

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TO THE EDITOR: As noted in the letter by Chapman and Jamrozik,¹ there was substantial prescribing of bupropion sustained release (Zyban SR; GlaxoSmithKline) following its Pharmaceutical Benefits Scheme (PBS) listing from 1 February 2001. The drug has been the subject of extensive publicity following reports of adverse drug reactions and deaths of patients while taking bupropion. Although bupropion has been shown to be effective in two key

clinical trials,^{2,3} there are no studies of effectiveness when prescribed in the context of Australian general practice.

We conducted a study of short-term effectiveness involving 11 general practice registrars working in eight practices in south-west and southern Sydney. Each registrar identified from practice prescribing records 10-15 patients prescribed bupropion after 1 February 2001. These patients were followed up via a telephone questionnaire 10 weeks after the date of prescription. The questionnaire elicited information on the use of bupropion, patient-reported abstinence rates, adverse effects and use of support services. Biochemical validation of smoking status was not conducted.

Interviews with 151 patients were conducted between April and August 2001 (see Box). Patients completing seven weeks or more of therapy were significantly more likely to report both continuous abstinence ($P = 0.01$) and point-prevalence abstinence ($P = 0.002$). Eighty-three patients reported adverse effects, the five most common being insomnia (14%), headaches (11%), nausea (8%), dry mouth (5%) and irritability (4%). No convulsions were reported. Patients who made use of one or more support services for cessation counselling were no more likely to report point-prevalence abstinence at follow-up than those who did not ($P = 0.8$).

Our study was not based on a random sample of GPs or patients, and we did not collect data on the total number of patients treated with bupropion in these practices over the study period. Bearing in mind these limitations, the study has a number of notable findings. Despite the wording of the PBS authority "for use within a comprehensive treatment program", fewer than half the patients reported using any support service. There was also a low rate of completion of the recommended course of treatment (less than 20% of patients).

Ten-week follow-up survey of patients prescribed bupropion sustained release (Zyban SR) for smoking cessation ($n = 151$)

Patients taking all or part of course of drug therapy	124 (82%)
Mean duration of therapy (weeks)	4.6 (range, 1-12)
Patients completing at least seven weeks of therapy	24 (19% of those who took all or part of course)
Patients reporting continuous abstinence at 10 weeks	47 (31%)
Patients reporting point-prevalence abstinence at 10 weeks	57 (38%)
Patients reporting adverse effects	83 (68% of those who took all or part of course)
Patients accessing one or more support services (general practitioner, Quitline, ZAP*)	69 (46%)

*ZAP = Zyban Action Plan (trademark of GlaxoSmithKline)