Letters

Doctor, do you have a moment? National Hand Hygiene Initiative compliance in Australian hospitals

To the Editor: We read with interest the recent contribution by Azim and McLaws regarding hand hygiene in Australian hospitals.[1] However, we have concerns regarding the methodology and interpretation of this study.

First, the authors conclude that public reporting of a national unadjusted average hand hygiene compliance rate "conceals" true performance.[1] In fact, Australia is unique worldwide in the extent to which hand hygiene data are made available to all stakeholders.[2] In addition to the national average, Hand Hygiene Australia publicly reports national data each audit period, stratified by profession, indication, profession plus indication, ward type and hospital peer group.[3] Furthermore, compliance at each hospital is available (http://www.myhospitals.gov.au). Importantly, institutional, regional and jurisdictional coordinators have access to detailed real-time results.

Second, the authors do not acknowledge several major limitations in their attempt to quantify any association between hand hygiene and *Staphylococcus aureus* bloodstream infection:

- cross-sectional studies have weak capacity to explore causal relationships;
- the authors did not account for potential confounders, including antimicrobial use and colonisation pressure;
- using aggregate organisation-level data to predict patient-level outcomes renders the analysis vulnerable to the ecological fallacy, by which real patient-level associations are missed;[4] and
- no information is provided regarding sample size estimation or study power.

Third, their discussion regarding the estimated cost of auditing hand hygiene practice extrapolates nationwide the unpublished and unvalidated input parameters from a single hospital and uses four audit periods to estimate annual cost, whereas there are actually three. Such inexact cost estimates risk doing more harm than good to rational dialogue regarding health policy decisions.

> "Australia is unique worldwide in the extent to which hand hygiene data are made available"
>
> Stewardson et al

Finally, we agree that medical hand hygiene compliance should improve further. However, the authors do not acknowledge several important advances since the start of the National Hand Hygiene Initiative. Medical hand hygiene compliance has improved markedly (from 46% [8 252/17 830] in 2009 to 68% [51 018/75 105] in 2014);[3] undergraduate and postgraduate education regarding use of alcohol-based hand rubs has finally become a routine component of most curricula; and important organisations such as the Australian Medical Association and Royal Australasian College of Surgeons now have active education programs. Similarly, we agree that Moments 1 and 2 are important to highlight, since they routinely rate 8%–10% lower for compliance nationally than the "after" moments (Moments 3, 4 and 5);[3] but these latter moments are also important if we are to avoid contamination of health care workers' hands and, subsequently, the hospital environment.[5]

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1 Azim S, McLaws ML. Doctor, do you have a moment? National Hand Hygiene Initiative compliance in Australian hospitals. *Med J Aust* 2014; 200: 534-537.
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5 World Health Organization. WHO guidelines on hand hygiene in health care. Geneva: WHO, 2009. http://www.who.int/gpsc/5may/tools/9789241597906/en (accessed Jul 2014). ❑

In reply: Doctors' low rate of compliance with hand hygiene practice at the hospital level will continue to be concealed as long as rates for health care professional groups are aggregated. Neither the Hand Hygiene Australia (HHA) website nor the MyHospitals website provides the individual hospital rates for nurses and doctors separately and by moment for independent public scrutiny.

We are delighted that Grayson and colleagues are now cautious about linking *Staphylococcus aureus* bloodstream (SAB) infection and hand hygiene. When HHA plotted SAB infection over the first 2 years of the program,[1] we could not reconcile their findings and counselled against this unwise causal linkage.[2] Our generalised linear regression model specific for Poisson distribution offset by patient-days highlighted that, even with this superior analysis, linking this statistically rare event with hand hygiene performance will remain unproductive, owing to complex causal reasons.

Our cost estimates included the fourth quarter, as hospitals continue auditing to collect sufficient numbers of observations. Even with this additional period, our estimate was conservative, using 2.2 minutes per observation and a mid-level hourly rate. We excluded 50% of the estimated training costs and indirect costs of auditing.

Moment 1 compliance gauges clinicians' commitment to patient safety, and it is the most common indication for hand hygiene in all hospitals. Moments 2 and 3, before and after a procedure, are infrequently indicated, and we did not review these because of the additional focus these two indications receive from the mandatory aseptic technique policy.[3] Moment 3, after exposure to body fluid, is universally well performed.[4] Moments 4 and 5, after contact with a patient and their environment, have poor but higher compliance than Moment 1, as clinicians interpret these indications as an opportunity for self-protection.[5]

Drilling down through the data showed that actual levels of compliance over 5 years had been obscured.[6] Any concerns that our finding may undermine the HHA program should be redirected to addressing both the uncomfortable knowledge that doctors are underperforming and the very real potential for an audit-associated Hawthorne effect inflating compliance. Using evidence-based findings is vital to the next phase of the quality improvement cycle. The goodwill generated by HHA should now be used to resolve poor performance with regard to Moment 1.

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> “Using evidence-based findings is vital to the next phase of the quality improvement cycle”
>
> McLaws et al

> “a flaw in the protocol?”
>
> Barnes

One moment doctor! Have you forgotten hand hygiene?

To the Editor: I must concur with Gilbert[1] that there is variability in how doctors interpret hand hygiene policies. If charged with strictly following the “Five Moments For Hand Hygiene”, there are areas in which, as doctors, our performance may not be reported as being satisfactory. An example would be a doctor in a four-bed ward turning from one patient to the next: after contact with one patient, evaporative alcohol applied to his or her hands has not dried before the doctor needs to make contact with the next patient. Correct hand hygiene procedure dictates applying the product after finishing with one patient and waiting for it to dry; then reapplying the product and waiting for it to dry before touching the next patient, without contacting anything else in the room first. Could it be that some of the lamented non-compliance is due to a flaw in the protocol?

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1 Gilbert G. One moment doctor! Have you forgotten hand hygiene [editorial]? *Med J Aust* 2014; 200: 508-509. ❑

In reply: Auditing the five moments of hand hygiene is potentially subjective, but auditor training is designed to ensure consistency between auditors within and between health care settings. Interpretative differences cannot explain consistent differences in compliance between professions. Moments sometimes, legitimately, coincide. The example given by Barnes is a double moment that would be audited as two correct moments if nothing were touched in between, as described in the Hand Hygiene Australia manual:

> Typically, this occurs when moving directly from one patient to another without touching anything in between … a single hand hygiene action will cover two moments for HH [hand hygiene], as Moments 4 and 1 coincide.[1]

Nevertheless, it is common, when moving between patients — even those immediately adjacent to each other — for us to touch objects, unconsciously; for example, the bed curtain, door handle, patient record, stethoscope, mobile phone, our nose, etc. Any of these objects can be contaminated with potential pathogens; failure to perform hand hygiene immediately before touching the next patient (Moment 1, the least often performed) can transmit pathogens more readily than most people realise.

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Changes in alcohol consumption in pregnant Australian women between 2007 and 2011

To the Editor: Further to the letter by Batagol[1] regarding the National Health and Medical Research Council (NHMRC) guidelines on alcohol consumption during pregnancy,[2] I believe that the guidelines should emphasise the basic principles of embryology and teratology. The first 2 weeks after conception (2–4 weeks after the last prepregnancy menstrual period, when women are unaware that they have conceived) are known as the "all-or-none period" — a phase during which teratogens will either cause non-viability or do no harm at all. Exposure to teratogens during this period does not cause birth defects because the cleavage-stage embryo consists of undifferentiated stem cells without significant vascular connection to the maternal circulation. Thus, women can always be reassured after such early alcohol exposure.[3]

The NHMRC statement "The risk to the fetus from low level drinking is likely to be low"[2] is not overly reassuring and may be misinterpreted by anxious women for whom a pregnancy is confirmed after inadvertent alcohol exposure.

It is clear there are two very different groups of women with alcohol exposure during pregnancy. First, there are the chronic heavy drinkers who, by definition, cannot make informed choices about their alcohol intake, and thereby risk their own and their babies' health; these women are a minority. Second, there are responsible women who are made to feel guilty about levels of alcohol exposure that are often trivial; these women are the majority.

It is misleading and offensive for this latter group to be vilified along with the alcohol-dependent women, so that, because of flimsy data, they fear that they have harmed their babies. It is also condescending that authorities believe that by stating that low-level alcohol consumption during early pregnancy is not harmful, they are somehow giving all pregnant women carte blanche to drink. This implies that responsible women (ie, most women) are not smart enough to understand the difference between reassurance after early low-level inadvertent exposure and advice that no alcohol should be consumed once a pregnancy is confirmed.

The Australian guidelines regarding low-level alcohol exposure in early pregnancy should be unequivocally reassuring. They should be made clear to consumers and health professionals alike.

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1 Batagol RP. Changes in alcohol consumption in pregnant Australian women between 2007 and 2011 [letter]. *Med J Aust* 2014; 200: 391-392.

2 National Health and Medical Research Council. Australian guidelines to reduce health risks from drinking alcohol. Canberra: NHMRC, 2009. http://www.nhmrc.gov.au/guidelines/publications/ds10 (accessed Jun 2014).

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> "auditor training is designed to ensure consistency"
>
> Gilbert

> "The Australian guidelines regarding low-level alcohol exposure in early pregnancy should be unequivocally reassuring"
>
> Kennedy

Potentially incapable patients objecting to treatment: doctors' powers and duties

To the Editor: Sadly, the case of "John", who perhaps should have been detained earlier, is common.[1] Mental health Acts seem to vary with the times, from the narrowness of legalistically defined "dangerousness" criteria to the vagaries of "care" criteria. Abuses and failures at each end repeatedly swing the pendulum back the other way. Some Australian legislation has been adjusted to bring it in line with United Nations recommendations, but those recommendations themselves have a history, being in part an over-reaction to historical abuses of psychiatry and detention around the world. They may not be quite right for us.

Competence as a criterion is a potential solution to much of this[2] but is problematic because of the level of sophistication required, particularly if the right to detain is extended — as it is in some jurisdictions — to all clinical staff. If in John's case competence criteria had been legally available to the caseworker, would she have felt comfortable exercising them just because he seemed psychotic, when there didn't seem to be any immediate danger? It is a big ask of relatively junior staff.

Is it always appropriate to assume competence until proven otherwise — the legal principle? I would have thought that if a person acts in a way sufficiently different to the way most people would in any situation, there should at least be doubt; and the more severe the potential consequences, the lower the threshold for intervention *with a view to assessment of competence*. It is on this basis that we intervene when the physically injured person places their health at risk by a refusal of treatment. Why would we not extend the same courtesy to the mentally unwell? We would do it with our neighbours or friends, surely!

Eagle and Ryan[3] provide a stepped approach to the management of some of these situations but could elaborate on the meaning of "detain". If we are physically holding or medicating, against their will, a delirious patient who would otherwise be at risk, do we need to use one of the Acts (mental health, guardianship etc) in the various states, with all the inherent clumsiness that entails? Or is it enough that we document what we did and why, as part of the ordinary business of duty of care?

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2 Bradbury JF, Ireland M, Stasa H. Mental health emergency transport: the pot-holed road to care. *Med J Aust* 2014; 200: 348-351.
3 Eagle K, Ryan C. Potentially incapable patients objecting to treatment: doctors' powers and duties. *Med J Aust* 2014; 200: 352-354 ❑

In reply: The answer to Dignam's apparently rhetorical question about using "one of the Acts … with all the inherent clumsiness that entails" is known and relatively straightforward.

The common law and the guardianship legislation of most states and territories allow a doctor to act in an urgent situation involving an incompetent patient to "save their lives, or to ensure improvement or prevent deterioration in their physical or mental health".[1] Under the common law, this power to provide needed treatment without consent is known as the principle of necessity, or the emergency principle, and is enunciated as acting in the "best interests" of the patient. There is nothing clumsy about using these powers, and if the circumstances demand their use, treatment may be given without any prior third-party approval or documentation. Having dealt with the emergency though, it is important to document what was done and why, including some documentation as to why consent could not be obtained in the normal way.

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1 *F v West Berkshire Health Authority* [1990] 2 AC 1. ❑

Correction

Incorrect Latin plural: In "*Dysphagia, regurgitation and weight loss in an elderly man*" (*Med J Aust* 2014; 201: 114) and on the cover and contents page of the 21 July 2014 issue, the correct plural form is "diverticula". We thank our knowledgeable readers who noted this. ❑