Ethical challenges for doctors working in immigration detention

To the Editor: Sanggaran and colleagues starkly illustrate the ethical dilemmas of doctors contracted to an organisation delivering substandard medical care to asylum seekers.[1] They pose the question of whether doctors should boycott the system.

The same ethical dilemma sometimes faces doctors working in the limited-resource environment of public hospitals in Australia. The following example illustrates how boycotting the system can achieve results.

In May 2003, medical administrators at Sir Charles Gairdner Hospital (a tertiary referral public hospital in Perth) were alerted to looming problems with provision of prostate biopsies, including failing equipment and unacceptable waiting times for urology patients. In April 2006, amid ongoing administrative inaction despite repeated meetings and correspondence, a patient was diagnosed with metastatic prostate cancer while still on a waitlist for a prostate biopsy.[2] Four of five urologists consequently resigned, arguing that they could no longer be part of a system that presided over this sort of substandard care. Their en-masse resignations were widely reported in the media, prompting the direct intervention of the then Western Australian Minister for Health. Only by boycotting the system were their concerns properly addressed.

The American Medical Association *Code of medical ethics* advocates use of ethically appropriate criteria when allocating limited medical resources.[3] Most importantly, the treating physician must remain an advocate for patients.

When we find ourselves involved in organisations delivering substandard medical care, all of us must take the lead of Sanggaran et al and continue to speak out — and sometimes boycott the system — to effectively advocate for our patients.

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1 Sanggaran J-P, Ferguson GM, Haire BG. Ethical challenges for doctors working in immigration detention. *Med J Aust* 2014; 201: 377-378.
2 O'Leary C. I waited for a year on tests as cancer grew. *The West Australian* 2006; May 13.
3 American Medical Association. AMA Code of medical ethics. Opinion 2.03 – allocation of limited medical resources. http://www.ama-assn.org/ama/pub/physician-resources/medical-ethics/code-medical-ethics/opinion203.page? (accessed Oct 2014).

To the Editor: We applaud the professional stance taken by Sanggaran and colleagues in highlighting the ethical challenges for medical practitioners working in Australia's immigration detention centres,[1] and extend our support to other clinicians and custodial officers who carry out their duties with respect, care and consideration for human rights.

The authors make a clear and compelling case for a "robust, independent and transparent monitoring" system in places of detention.[1] The Australian Medical Association has worked with previous and current federal governments towards achieving such a system, through formal ratification of the Optional Protocol to the Convention against Torture and other Cruel, Inhuman or Degrading Treatment or Punishment (OPCAT).[2] This would create, within 3 years of the protocol's ratification, a "national preventive mechanism" to oversee compliance with human rights obligations in places of detention — immigration detention centres, prisons, juvenile detention centres and locked mental health facilities. Australian enterprises in offshore locations such as Nauru and Manus Island may also be subject to independent review.

> "Only by boycotting the system were their concerns properly addressed"
>
> Davies

Australia signed OPCAT in 2009 but has not yet ratified the decision, despite a National Interest Analysis and a bipartisan parliamentary committee recommending prompt ratification.[3] As of October 2014, 74 other countries had ratified the protocol.[4] Some Australian state and territory parliaments have introduced enabling legislation, which is the jurisdictional mechanism for implementing internationally binding obligations. This will be part of the robust, independent and transparent monitoring system that Sanggaran and colleagues called for.

We call on the Australian Government to heed their request to provide a safe environment for people living in detention and to allow health practitioners to practise ethically.

> "Australia signed OPCAT in 2009 but has not yet ratified the decision"
>
> Levy et al

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1 Sanggaran J-P, Ferguson GM, Haire BG. Ethical challenges for doctors working in immigration detention. *Med J Aust* 2014; 201: 377-378.
2 United Nations General Assembly. Optional Protocol to the Convention against Torture and Other Cruel, Inhuman or Degrading Treatment or Punishment. Adopted December 2002. http://www.ohchr.org/en/ProfessionalInterest/Pages/OPCAT.aspx (accessed Oct 2014).
3 Joint Standing Committee on Treaties. Report 125. Treaties tabled on 21 June 2012. Canberra: Parliament of the Commonwealth of Australia, 2012. http://www.aph.gov.au/Parliamentary_Business/Committees/House_of_Representatives_Committees?url=jsct/28february2012/report.htm (accessed Dec 2014).

4 Association for the Prevention of Torture. OPCAT Database. http://www.apt.ch/en/opcat-database (accessed Oct 2014). ■

To the Editor: As psychiatrists and physicians working with adults and children in mandatory, often prolonged, immigration detention, we confirm Sanggaran and colleagues' account.[1]

Quality evidence from diverse, independent, multinational sources, including legal and medical investigations over two decades, finds that immigration detention:

- contravenes multiple international conventions that Australia has signed;[2]
- harms mental health of detained children and adults, and detention employees, in a process likened to torture;[3]
- incurs vastly greater financial and legal costs than alternatives, and makes profits for multinational companies from desperate, traumatised people;[4]
- fails to deter people from seeking asylum and is unnecessary to prevent their absconding (because they rarely abscond);[2]
- compromises ethics, through mandating secrecy, neutralising advocacy and destroying independent oversight;[5] and
- fosters conditions for systematic institutional child abuse and its lifelong consequences.[6]

Immigration detention fails every standard of medicine — science, ethics, health economics, pragmatics and human rights (including freedom from abuse and the right to highest attainable health standards). Yet despite accumulated evidence and established opposition from national professional bodies — including medicine, paediatrics, psychiatry, public health, psychology, nursing, social work and medical students — successive governments deny or rationalise inveterate harms, arguably implicate professionals in legitimating abuses the professionals cannot prevent, and deflect needed policy change.[7] The case against immigration detention is irrefutable.

As immigration detention's damages are unmitigated by any (mental) health intervention, and immigration detention renders clinicians ineffectual, a strong clinical and ethical argument exists for withdrawing services. Rather than health care for asylum seekers and detainees remaining with the Department of Immigration and Border Protection or being outsourced, federal or state health departments should provide and manage services and monitor standards independently. This will not resolve the problem of immigration detention, but it may attenuate some of its worst effects.

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1 Sanggaran J-P, Ferguson GM, Haire BG. Ethical challenges for doctors working in immigration detention. *Med J Aust* 2014; 201: 377-378.

2 McAdam J, Chong F. Refugees: why seeking asylum is legal and Australia's policies are not. Sydney: UNSW Press, 2014.

3 Marr D, Laughland O. Australia's detention regime sets out to make asylum seekers suffer, says chief immigration psychiatrist. *The Guardian Australia* 2014; 5 Aug. http://www.theguardian.com/world/2014/aug/05/-sp-australias-detention-regime-sets-out-to-make-asylum-seekers-suffer-says-chief-immigration-psychiatrist (accessed Aug 2014).

4 O'Brien B. Is it time for doctors to make a stand on detention? *Australian Doctor* 2014; 21 Feb. http://www.australiandoctor.com.au/opinions/guest-view/is-it-time-for-doctors-to-make-a-stand-on-detentio (accessed Aug 2014).

5 Dudley M, Steel Z, Mares S, Newman L. Children and young people in immigration detention. *Curr Opin Psychiatry* 2012; 25: 285-292.

6 Sweet M, Rosen A. How the Federal Government is grooming us to be complicit in child abuse. *Croakey* 2014; 2 Mar. http://blogs.crikey.com.au/croakey/2014/03/02/how-the-federal-government-is-grooming-us-to-be-complicit-in-child-abuse/ (accessed Aug 2014).

7 J'Accuse Coalition (L Newman, convenor). J'Accuse open letter to the Federal Government and Opposition. https://www.getup.org.au/campaigns/refugees/jaccuse-open-letter-to-the-government/sign-the-open-letter (accessed Sep 2014). ■

> "Immigration detention fails every standard of medicine — science, ethics, health economics, pragmatics and human rights"
>
> Dudley et al

Rural emergency departments supplement general practice care

To the Editor: To provide a rural comparison to Nagree and colleagues' metropolitan study,[1] we estimated the number of general practice-type patients attending emergency departments (EDs) in north-west Tasmania.

Ethics approval was granted by the Tasmanian Health and Medical Human Research Ethics Committee.

We used two methods of identifying general practice-type visits to analyse 152 481 ED presentations to the North West Regional Hospital (Burnie) and the Mersey Community Hospital (Latrobe) from January 2011 to December 2013.

The Australasian College for Emergency Medicine (ACEM) method categorises as possibly suitable for a general practice consultation patients who are self-referred, do not arrive by ambulance and have a medical consultation time under 1 hour. Patients who did not wait to be

Number of general practice-type presentations to two emergency departments (EDs) in north-west Tasmania, by method, year and time

Method	2011 (*n* = 51 048*)	2012 (*n* = 51 190*)	2013 (*n* = 50 243*)
ACEM†			
Weekday‡	6604/20 046 (32.9%)	6817/20 578 (33.1%)	6120/20 060 (30.5%)
Out of hours§	5489/14 506 (37.8%)	5376/14 604 (36.8%)	4732/14 516 (32.6%)
Weekend	5657/14 777 (38.3%)	5602/14 707 (38.1%)	5373/14 336 (37.5%)
AIHW			
Weekday‡	12 431/20 618 (60.3%)	12 481/21 062 (59.3%)	11 454/20 546 (55.7%)
Out of hours§	7455/15 107 (49.3%)	7222/15 047 (48.0%)	6629/14 962 (44.3%)
Weekend	8680/15 323 (56.6%)	8475/15 081 (56.2%)	7818/14 735 (53.1%)

ACEM = Australasian College for Emergency Medicine. AIHW = Australian Institute of Health and Welfare. * Total ED visits (used for the AIHW method). † 4351 patients who did not wait to be seen by a doctor or had an invalid treatment time were excluded from assessment using the ACEM method. ‡ Monday to Friday 08:00 to 17:00. § Monday to Friday 17:01 to 07:59. ◆

seen by a doctor or had an invalid treatment time are excluded. Over the 3 years, we identified 51 770 general practice-type presentations using this method (34.9%). There were 60 684 presentations included in the ACEM method on weekdays, with 19 541 (32.2%) identified as general practice-type patients (Box). However, ACEM general practice-type patients occupied only 7%–8% of total ED treatment time.

The Australian Institute of Health and Welfare (AIHW) method categorises as general practice-type those patients who: are allocated to an Australasian Triage Scale category of 4 or 5 (specifying 60- and 120-minute maximum waiting times, respectively); do not arrive by ambulance, police, community health or correctional vehicle; are not admitted to hospital; and do not die. Using this method, 82 645 general practice-type patients (54.2% of all ED patients) were identified. Such presentations occupied 25% of total ED treatment time each year.

Our results indicate that the proportion of presentations to EDs in north-west Tasmania that are general practice-type visits is two to three times that in Perth.[1]

In rural areas, the lack of availability of general practice care at no cost to the patient is a main reason for patients presenting to EDs.[2] There are 118 general practitioners in north-west Tasmania, or 104.4 per 100 000 persons; half that of major cities (227.8 per 100 000).[3,4] With fewer GPs, residents are likely to appropriately self-refer to EDs to access care. Increasing the supply of GPs in rural areas remains the cornerstone of reducing general practice-type admissions.

As north-west Tasmania is an area of high socioeconomic disadvantage, it is reasonable to expect that cost weighs heavily in many residents' decisions concerning health care. Implementing a policy such as the $5 general practice copayment may increase ED presentations among the working poor in order to avoid paying.

Different models of care for appropriately managing GP-type presentations to EDs have been suggested. Employing GPs in EDs has been shown to reduce costs,[5] but in rural areas with a shortage of GPs this would take them away from their practices. Other models of providing care in less expensive settings than tertiary EDs require exploration. One such model may be a parallel low-acuity service staffed by nurses and overseen by an emergency medicine registrar or specialist.

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> "the proportion of . . . general practice-type visits is two to three times that in Perth"
>
> Allen et al

Competing interests: No relevant disclosures.

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1 Nagree Y, Camarda VJ, Fatovich DM, et al. Quantifying the proportion of general practice and low-acuity patients in the emergency department. *Med J Aust* 2013; 198: 612-615.
2 Masso M, Bezzina AJ, Siminski P, et al. Why patients attend emergency departments for conditions potentially appropriate for primary care: reasons given by patients and clinicians differ. *Emerg Med Australas* 2007; 19: 333-340.
3 Tasmania Medicare Local. Tasmanian health directory. http://www.tasmedicarelocal.com.au/tasmanian-health-directory (accessed Jun 2014).
4 Australian Bureau of Statistics. Australian Social Trends, April 2013: Doctors and Nurses. Canberra: ABS, 2013. (ABS Cat. No. 4102.0.) http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/4102.0Main+Features20April+2013 (accessed Jul 2014).
5 Dale J, Green J, Reid F, et al. Primary care in the accident and emergency department: II. Comparison of general practitioners and hospital doctors. *BMJ* 1995; 311: 427-430. ■

Reporting rural workforce outcomes of rural-based postgraduate vocational training

To the Editor: Following calls to bridge the evidence gap regarding rural exposure and uptake into rural medical practice,[1] Rural Clinical Schools (RCS) regularly report graduate rural career outcomes. This permits comparison

of approaches and quality improvement of the program.

Comparatively little is reported from the postgraduate rural-based vocational training programs. Just as the evidence gap for RCS required bridging, a similar approach should be adopted as standing key performance outcome indicators of regional training providers.

Ministerial review of general practice training previously identified a chronic undersupply of rural doctors as a "pressing concern" for government.[2] Rural vocational training needs were determined as a priority in establishing the regionalised Australian General Practice Training (AGPT) program in 2002. The program requires 50% of vocational training to be conducted in rural areas to improve distribution of general practitioners into rural and regional areas.[3] Yet, unlike RCS, in the AGPT program, training providers are not required to routinely report their rural workforce outcomes.

Two key performance outcome indicators are proposed: rural retention rate (RRR) and advanced rural skills proportion (ARSP). RRR reflects the number of registrars in rural practice 1 or more years after completing training. Advanced rural skill training acquisition is not available to RCS, but has been identified as increasing rural retention,[4] and is intimately related to rural retention and workforce outcomes. ARSP is the proportion of all completing registrars who achieved Fellowship in Australian College of Rural and Remote Medicine or Fellowship in Advanced Rural General Practice.

These are both reasonable and appropriate measures of rural workforce contribution. Such sentinel measures would permit comparison between programs, leading to further improvement of vocational rural medical education.

In one dedicated rural medical vocational training program in Queensland, the RRR is 75% (38/51 registrars since the exclusive rural pathway was delivered) and the ARSP is 49% (25/51).

Dedicated rural medicine training contributes to the short- and intermediate-term rural medical workforce. This contribution should be measured using key sentinel measures in addition to detailed multivariate analyses.

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1 Ranmuthugala G, Humphreys J, Solarsh B, et al. Where is the evidence that rural exposure increases uptake of rural medical practice? *Aust J Rural Health* 2007; 15: 285-288.

2 Phillips B, Copeman J, Foster J, et al. General practice education: the way forward. Final report of the Ministerial Review of General Practice Training. Canberra: Department of Health and Family Services, 1998.

3 Mason J. Review of Australian Government health workforce programs. Canberra: Department of Health, 2013. http://www.health.gov.au/internet/main/publishing.nsf/Content/work-health-workforce-program-review (accessed Nov 2014).

4 Lawrance R. Can training reduce the rural workforce shortage? *Aust Fam Physician* 2004; 33: 173-174. ■

The importance of surgeons teaching anatomy, especially by whole-body dissection

To the Editor: The reduction in anatomy teaching by whole-body dissection in medical education is a critical matter that has received substantial attention in the medical education literature.[1,2] Where anatomy teaching by whole-body dissection has remained, there has been a marked move away from the tradition of such courses being taught by surgeons. A recent review of anatomy education in Australia and New Zealand showed that teaching of gross anatomy is now predominantly undertaken by non-clinical staff, including medical students, science graduates, physiotherapists and technical staff.[2] Speculation has arisen that the teaching of anatomy by non-clinical staff may lead to a lack of depth in understanding of topographical clinical anatomy among medical graduates.[2]

> "Such sentinel measures would permit comparison between programs, leading to further improvement of vocational rural medical education"
>
> Kitchener

> "teaching of gross anatomy is now predominantly undertaken by non-clinical staff"
>
> Burgess et al

The importance of providing clinical relevance to medical teaching is frequently highlighted. In fact, the importance of being taught by clinicians and surgeons in the anatomy dissection courses is perhaps more relevant to the modern medical curricula, which have limited time for imparting essential clinical anatomy. Anatomical knowledge is still important to safe clinical practice; the range of possible surgery has increased dramatically; and sophisticated technological advances such as modern imaging require a sophisticated knowledge of topographical anatomy.[3]

The reintroduction of both undergraduate and postgraduate courses in anatomy by whole-body dissection at Sydney Medical School has re-established the tradition of anatomy dissection taught by surgeons. Senior surgeons, both currently working and retired, provide guidance in their area of expertise, and are able to contribute their anecdotes and experiences to provide a relevant clinical perspective.[4] Having surgeons from different specialties present when their areas of interest are being dissected provides a propitious environment for acquisition of students' knowledge and skills.[4]

In recent years, the demands of the health care system have placed increased strains on clinicians' commitments to teaching. The amalgamation of basic science

departments into medical faculties has affected the design of curricula, resulting in non-medical, non-clinical personnel teaching widely within medical schools.[5] With their wealth of clinical experience, surgeons who teach anatomy dissection offer a valuable, rare resource, essential to the provision of a clinical context to students.[3] Recruitment mechanisms that attract surgeons to teach anatomy would ensure a high-quality anatomical learning experience for medical students.

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1 Fahrer M. Art macabre: is anatomy necessary [editorial]? *ANZ J Surg* 2001; 71: 333-334.

2 Craig S, Tait N, Boers D, McAndrew D. Review of anatomy education in Australian and New Zealand medical schools. *ANZ J Surg* 2010; 80: 212-216.

3 Ellis H. The surgeon as a teacher of anatomy. *Aust N Z J Surg* 1993; 63: 513-514.

4 Ramsey-Stewart G, Burgess AW, Hill DA. Back to the future: teaching anatomy by whole-body dissection. *Med J Aust* 2010; 193: 668-671.

5 Peck D, Skandalakis JE. The anatomy of teaching and the teaching of anatomy. *Am Surg* 2004; 70: 366-368. ■

Cardiopulmonary arrest and mortality trends, and their association with rapid response system expansion

To the Editor: Chen and colleagues associate the reduction in inhospital cardiopulmonary arrest (IHCA) incidence with the introduction of rapid response systems.[1] Their population-based study of all patients aged ⩾ 14 years in New South Wales found that hospital mortality decreased between 2002 and 2009. During this period, the age of the hospital population increased and patients aged ⩾ 75 years were more likely to die in hospital (risk ratio [RR], 28.4), have an IHCA (RR, 8.6), die as a result of cardiac arrest (RR, 11.9), or die within 12 months of discharge (RR, 5.3).[1]

Australian statistics show that most deaths occur in hospital and that the background mortality rate of the population continued to decline from 1907 to 2012.[2] However, there will be a background death rate that is not preventable and is a result of the natural end of life.

Studies show that up to 30% of rapid response team attendance results in limitation of care as a not-for-resuscitation order.[3] If these patients continued to decline to death, they would not be considered in the IHCA figures because they are non-preventable deaths. Rather, they would be considered in the hospital mortality figures. This would result in a decrease in IHCA and an improvement in IHCA mortality from better management of end-of-life goals. This is suggested by the modest (1.8%) reduction in overall hospital mortality from the decreased mortality after IHCA.

This study provides excellent evidence for the need for advanced care planning and consideration of treatment goals at the end of life.

> “up to 30% of rapid response team attendance results in limitation of care as a not-for-resuscitation order”
>
> Levinson et al

> “Could the apparent reduction in hospital mortality be explained by changed patterns of admissions?”
>
> O'Callaghan

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1 Chen J, Ou L, Hillman KM, et al. Cardiopulmonary arrest and mortality trends, and their association with rapid response system expansion. *Med J Aust* 2014; 201: 167-170.

2 Australian Institute of Health and Welfare. Australia's hospitals 2010-11 at a glance. Canberra: AIHW, 2012. (AIHW Cat. No. HSE 118; Health Services Series No. 44.) http://www.aihw.gov.au/publication-detail/?id=10737421715 (accessed Sep 2014).

3 Levinson M, Mills A. Cardiopulmonary resuscitation — time for a change in the paradigm? *Med J Aust* 2014; 201: 152-154. ■

To the Editor: For the study by Chen and colleagues,[1] the Journal provided the following taglines: “Early intervention not resuscitation reduces deaths” on the cover of the issue; and “Mortality has decreased due to earlier intervention rather than advances in resuscitation” in the Contents on page 119. These statements contrast with the article's title and contents, which included: “It is an observational study and, as such, we cannot assume any causality for the relationships identified”.[1] Does the Journal believe its taglines accurately represented the article?

The largest randomised controlled trial of rapid response teams was the National Health and Medical

LETTERS TO THE EDITOR

The MJA welcomes letters on new topics (no longer than 350 words) or commenting on an MJA article (no longer than 250 words). All letters should have no more than three authors. Comments about MJA articles should be submitted within 1 month of that article's publication and should be given the same title as the article. Letters should be appropriately referenced in the same style and format as other MJA articles, with no more than 5 references. All research letters are peer reviewed, and other letters may also be peer reviewed. All letters are subject to editing. Proofs will not normally be supplied unless significant changes are made.

(***See*** https://www.mja.com.au/journal/mja-instructions-authors)

Research Council-funded MERIT trial,[2] which concluded: "The [medical emergency team] system greatly increases emergency team calling, but does not substantially affect the incidence of cardiac arrest, unplanned [intensive care unit] admissions, or unexpected death." The MERIT trial was undertaken in the same decade and state as the study by Chen et al.[1] Should this conflicting data have been discussed in detail?

In the Appendix to their article,[1] the authors presented a 19% increase in hospital admissions during the study period. Hospital mortality was expressed as events per 1000 admissions. Was rapid response system implementation associated with decreased total hospital mortality? Could the apparent reduction in hospital mortality be explained by changed patterns of admissions?

The authors wrote: "To our knowledge, there were no other major changes in the way health care was delivered in hospitals over the study period".[1] How did they satisfy themselves that hospital health care had not changed? Did they not think that an increase in hospital admissions of 19% over the decade must imply a major change in hospital health care delivery?

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1 Chen J, Ou L, Hillman KM, et al. Cardiopulmonary arrest and mortality trends, and their association with rapid response system expansion. *Med J Aust* 2014; 201: 167-170.

2 Hillman K, Chen J, Cretikos M, et al. Introduction of the medical emergency team (MET) system: a cluster-randomised controlled trial. *Lancet* 2005; 365: 2091-2097.

In reply: Levinson and Mills focus on one of the most important challenges in health care — the appropriate management of patients at the end of life. It is correct to suggest that the rapid response system-associated reduction in inhospital cardiopulmonary arrest may be due to more than just prevention through early intervention, but may also be due to increased attention to end-of-life care and avoidance of inappropriate resuscitation. Up to 30% of all rapid response calls are for patients with end-of-life issues. Perhaps if we develop ways of identifying these patients earlier, a more appropriate management plan could be developed in cooperation with patients and their carers.

O'Callaghan highlights the fact that the MERIT trial provided no evidence of significant improvement of cardiac arrest, unplanned intensive care unit admissions or unexpected death. However, as discussed in our MERIT publication[1] in detail and in our Journal article[2] to some degree, the MERIT trial was underpowered and the control hospitals acted in a manner similar to that of hospitals with medical emergency team (MET) systems in place (ie, over 35% of cardiac arrest team calls in control hospitals were made for patients without cardiac arrest). Also, the implementation and uptake of MET systems were not optimal (two-thirds of patients did not have a MET call despite meeting the criteria). Thus, the MERIT trial results are inconclusive but not in conflict with the results presented in our Journal article, as "absence of evidence is not evidence of absence". Indeed, our follow-up article showed that MET hospitals had significant reduction in mortality outside the intensive care unit compared with non-MET hospitals.[3]

The increased hospital admissions over the study period were unlikely to explain the reduction in hospital mortality, as the increased admissions mostly occurred among frail older people, who have an increased risk of cardiac arrest and mortality. Our analyses adjusted for age and other possible confounders. The increase in admissions showed the increased severity and complexity of the conditions for which the patients were admitted, not a change in hospital health care delivery.

> "increased admissions mostly occurred among frail older people, who have an increased risk of cardiac arrest and mortality"
>
> Chen et al

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1 Hillman K, Chen J, Cretikos M, et al. Introduction of the medical emergency team (MET) system: a cluster-randomised controlled trial. *Lancet* 2005; 365: 2091-2097.

2 Chen J, Ou L, Hillman KM, et al. Cardiopulmonary arrest and mortality trends, and their association with rapid response system expansion. *Med J Aust* 2014; 201: 167-170.

3 Chen J, Bellomo R, Flabouris A, et al. The relationship between early emergency team calls and serious adverse events. *Crit Care Med* 2009; 37: 148-153.

Renal replacement therapy associated with lithium nephrotoxicity in Australia

To the Editor: Adam[1] contends that Roxanas and colleagues[2] have overemphasised the risk of renal replacement therapy (RRT) associated with lithium treatment. I disagree.

Lithium nephrotoxicity appears to require about a decade of treatment to develop[3] and a further 10–20 years before RRT is necessary.[3,4] Adam inappropriately divides the number of incident cases of RRT attributed to lithium use by the number of patients currently taking lithium. Rather, cumulative incidence estimates for RRT derived from cohort studies are required.[5]

> "cumulative incidence estimates for RRT derived from cohort studies are required"
>
> Wells

Adam calculates that the risk of RRT due to lithium use is lower in Australia than in Sweden, but he uses prevalent cases from Sweden and incident cases from Australia. I calculate that, over a 5-year period, the average annual incident rate

of RRT attributed to lithium use per million population is 0.82 in Sweden (95% CI, 0.41–1.47)[3] compared with 0.78 in Australia (95% CI, 0.67–0.90).[2] The current prevalence of lithium prescribing is also similar — 1150 per million in Australia[2] and 1255 in Sweden[3] — although, given the lags involved, historical comparisons would be of interest.

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1 Adam WR. Renal replacement therapy associated with lithium nephrotoxicity in Australia [letter]. *Med J Aust* 2014; 201: 30.
2 Roxanas M, Grace BS, George CRP. Renal replacement therapy associated with lithium nephrotoxicity in Australia. *Med J Aust* 2014; 200: 226-228.
3 Bendz H, Schon S, Attman P, Aurell M. Renal failure occurs in chronic lithium treatment but is uncommon. *Kidney Int* 2010; 77: 219-224.
4 Aiff H, Attman P-O, Aurell M, et al. End-stage renal disease associated with prophylactic lithium treatment. *Eur Neuropsychopharmacol* 2014; 24: 540-544.
5 Close H, Reilly J, Mason JM, et al. Renal failure in lithium-treated bipolar disorder: a retrospective cohort study. *PLOS One* 2014; 9: e90169. doi: 10.1371/journal.pone.0090169.