Matters arising

CareTrack: assessing the appropriateness of health care delivery in Australia

Correspondence and critiques on the the CareTrack study — how do we measure care?

To the Editor: We write to express our concerns with the article by Runciman and colleagues on the appropriateness of health care delivery in Australia.[1] Our concerns focus on the issue of stroke care and the notion that poor compliance with guidelines is interpreted as "inappropriate" patient care.

This study did not measure hard clinical end points, such as stroke recurrence, when evaluating the appropriateness of care delivery. The observed decline in hospitalisation and mortality rates for stroke in Australia must mean that "primary and secondary prevention strategies are working".[2] Our primary care physicians should be congratulated for these improvements in health outcomes, which surely result from "appropriate care".

Runciman et al used the 2007 National Stroke Foundation guideline (which is now outdated), including the ABCD^2 (age, blood pressure, clinical features, duration and diabetes) score for predicting risk of stroke after transient ischaemic attack (TIA). We admit that we are guilty of not using this score, yet we achieved a low 90-day stroke recurrence rate after TIA (2.42%).[3] Does this mean that we have not delivered appropriate care?

The ABCD^2 score predicts stroke risk poorly[3,4] and may lead to patients with high-risk stroke mechanisms being inappropriately classified as low-risk. The use of the ABCD^2 tool to triage admission could increase the admission rate from 19.6% to 71.1% in our centre.[3] Therefore, could the use, rather than non-use, of this score potentially lead to medicolegal suit?[5] Would this not be termed "inappropriate" use of a public resource?

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Competing interests: Thanh Phan has received honoraria from Bayer and Genzyme for presenting lectures on stroke. He has been invited to attend a Genzyme-sponsored Fabry disease neurology board meeting in January 2013.

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1 Runciman WB, Hunt TD, Hannaford NA, et al. CareTrack: assessing the appropriateness of health care delivery in Australia. *Med J Aust* 2012; 197: 100-105.

2 Thrift AG, Tong B, Senes S, et al. No evidence for an epidemic of stroke with the ageing of the population. *Neuroepidemiology* 2012; 38: 268-273.

3 Sanders LM, Srikanth VK, Psihogios H, et al. Clinical predictive value of the ABCD^2 score for early risk of stroke in patients who have had transient ischaemic attack and who present to an Australian tertiary hospital. *Med J Aust* 2011; 194: 135-138.

4 Sanders LM, Srikanth VK, Blacker DJ, et al. Performance of the ABCD^2 score for stroke risk post TIA: meta-analysis and probability modeling. *Neurology* 2012; 79: 971-980.

5 Maurice Blackburn. Medical law experts say CareTrack study a roadmap for Australian health care standards [media release]. 16 Jul 2012. http://www.mauriceblackburn.com.au/news/press-releases--announcements/2012/medical-law-experts-say-caretrack-study-a-roadmap-for--australian-health-care-standards-.Aspx (accessed Oct 2012).

To the Editor: The article by Runciman and colleagues[1] has attracted much interest within the profession and in the lay press. However, there are serious methodological flaws in their study.

The first issue is with the choice of clinical guidelines for assessing patient care. Although we have evidence for what is "best" practice in some areas, we are lacking this evidence in others. Hence, many of the guidelines used as the reference point for "appropriateness" of care are based only on expert opinion. Problematically, this means that one view is defined as the gold standard, and care provided according to alternative opinion is defined as deficient in some way. This is clearly unreasonable. The authors have been too ambitious in assessing many areas of clinical care, rather than limiting the study to areas with strong evidence bases.

> "we are guilty of not using [the ABCD^2] score, yet we achieved a low 90-day stroke recurrence rate after TIA"
>
> Phan et al

> "The authors have been too ambitious in assessing many areas of clinical care"
>
> Mackay

The second issue is that there was no attempt to measure the quality of care actually delivered, only compliance with the guidelines. It seems that a patient who has been treated with a β-blocker for 15 years for essential hypertension and who has impeccable blood pressure control, but who has not experienced any side effects, would be classified as receiving "inappropriate" care. If this patient were changed to an angiotensin-converting enzyme inhibitor and developed a cough, then it seems the research team would give the treating doctor a tick of approval, because he or she is now compliant with the guidelines. If a research project attempts to comment on the quality of care delivered to patients, it needs to actually measure the quality of that care. In this respect, Runciman et al fail.

It is disappointing that this potentially contentious study was published in this form by the Journal. As always, the impact of the original is greater than that of the commentary that follows.

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1 Runciman WB, Hunt TD, Hannaford NA, et al. CareTrack: assessing the appropriateness of health care delivery in Australia. *Med J Aust* 2012; 197: 100-105.

To the Editor: The CareTrack study[1] has produced considerable debate that has mostly focused on its aggregated findings about compliance with appropriate health care delivery. There needs to be much wider discussion, not about the aggregate figure, but about the variation, such as the 39 health care providers for whom compliance varied between 32% and

86%. Such unwarranted variation in health care has been identified elsewhere through proactive initiatives.[2,3]

Most clinicians do the very best they can for their patients, but that "very best" is hugely variable. Initiatives to reduce this variation require multiple interventions at multiple levels, including by political, regulatory and professional bodies, and at provider level.[4] We at the frontline have to take accountability for the care we deliver. We have to look at clinical outcomes data for patients much more than the 24% of the time we currently do.[5]

A strategy of guidelines, education and reliance on hard work and vigilance cannot on its own deliver higher levels of compliance, without deliberately designed processes of care that are reliable,[6] and a culture of excellence. This requires leadership, an understanding of the science of improvement, and a commitment to measuring for quality improvement, with a drive to strive for excellence. We may be doing our very best, and the care we deliver may be good, but good is the enemy of great. We can do even better for our patients, and if we do not take the lead in the journey towards greatness, then external drivers and regulation will force us to.

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Competing interests: I have acted as a consultant, written commissioned articles and presented as a paid speaker internationally in primary care quality improvement.

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1 Runciman WB, Hunt TD, Hannaford NA, et al. CareTrack: assessing the appropriateness of health care delivery in Australia. *Med J Aust* 2012; 197: 100-105.

2 The Dartmouth Atlas Working Group. The Dartmouth Atlas of Health Care. Quality/effective care. http://www.dartmouthatlas.org/data/topic/topic.aspx?cat=25 (accessed Jul 2012).

3 National Health Service Right Care. NHS Atlas. http://www.rightcare.nhs.uk/index.php/nhs-atlas/ (accessed Jul 2012).

4 Dawda P, Jenkins R, Varnam R. Quality improvement in general practice [discussion paper]. London: The King's Fund, 2010. http://www.kingsfund.org.uk/sites/files/kf/field/field_document/quality-improvement-gp-inquiry-discussion-paper-mar11.pdf (accessed Jul 2012).

5 Schoen C, Osborn R, Michelle MM, et al. A survey of primary care physicians in 11 countries, 2009: perspectives on care, costs, and experiences. *Health Aff (Millwood)* 2009; 28 (6): w1171-w1183. http://www.commonwealthfund.org/Publications/In-the-Literature/2009/Nov/A-Survey-of-Primary-Care-Physicians.aspx (accessed Jul 2012).

6 Resar RK. Making noncatastrophic health care processes reliable: learning to walk before running in creating high-reliability organizations. *Health Serv Res* 2006; 41 (4 Pt 2): 1677-1689. ❑

In reply: The CareTrack Australia study[1] has received support for its general recommendations, but also some criticism. Here, we address the issues raised by commentators.

Levels of evidence: Phan and Srikanth, and Mackay join previous commentators[2,3] in calling into question the key CareTrack finding — that adult Australians received appropriate care at 57% of eligible health care encounters in 2009 and 2010[1] — because 71% of indicators were supported by consensus-based recommendations,[2] and only 15% were backed by National Health and Medical Research Council Grade A or B recommendations.[3] In fact, compliance with indicators supported by high grades of recommendations or levels of evidence was no different to overall compliance. It was 54% (95% CI, 49%–60%) for 6431 eligible encounters backed by Grade A or B recommendations, 56% (95% CI, 43%–70%) for 4551 eligible encounters backed by Level I or II evidence, and 62% (95% CI, 58%–66%) for 20 875 eligible encounters backed by consensus-based recommendations.

Choice of indicators: In an earlier letter to the Journal in support of using primary care encounters for smoking, nutrition, alcohol and physical activity interventions (with which we strongly agree), Wright and Bolam state that CareTrack failed to consider these "core aspects of preventive care".[4] However, this is not the case. To be enrolled, participants had to have one or more of the 22 study conditions. Indicators relating to smoking, nutrition, alcohol intake and physical activity were included, where relevant, within specific conditions (see Appendix 1 in our article; online at mja.com.au[1]). For example, 10 indicators across eight conditions addressed the assessment of smoking status or advice to stop smoking (eg, "Patients with a new diagnosis of a stroke/[transient ischaemic attack] that smoke were counselled to stop smoking"). Average compliance with the 10 smoking-related indicators was 79% (95% CI, 65%–93%). Compliance with other health promotion indicators will be outlined in future publications. Furthermore, questions in these areas have been included in the next stage of our research, which is currently underway and involves direct surveys of CareTrack participants.

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> Dawda

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Phan and Srikanth point out that CareTrack did not use outcome indicators and object to the use of the outdated ABCD[2] tool for assessing stroke risk. In support of this, they cite their own work published within the past 2 years. First, CareTrack is not an outcome study. We focused on process so that the results can inform improvement initiatives.[1] Second, as CareTrack indicators for stroke were ratified by clinician experts for care expected in 2009–2010, the 2007 guidelines *were* the most appropriate source.[5] These state unequivocally that the ABCD[2] tool should be used at presentation in both primary and secondary care settings (a statement backed by a Grade B recommendation and Level II evidence). Phan and Srikanth point out that the use of out-of-date guidelines to develop indicators is problematic. We agree, and this is one of the important recommendations arising from our study — that a process be put in place for ensuring guidelines are up to date.[6]

Bias and attrition: The issues of bias arising from our sampling methods and the high attrition of potential participants were identified.[2] We have already discussed these.[1] When results were adjusted to account for demographic differences and non-response bias, the findings were virtually identical, which should allay these concerns (see Appendix 2; online at mja.com.au[1]).

The small numbers of participants for some conditions: This is an inevitable consequence of the population-based sampling we used. We agree that results from small sample sizes with wide confidence intervals should be viewed with great caution.[2] However, CareTrack findings for these conditions are consistent with other

studies, as noted by commentators elsewhere.[7]

Effects of comorbidities: Commentators raise the issue of the potential effect of comorbidities on compliance.[2,3] Comorbidities are not a consideration for most indicators; where they may be, the indicators take account of virtually all contingencies (eg, see indicators 129, 428–430[1]), rendering insignificant any effect on overall compliance.

Dawda suggests that we should learn from the CareTrack high performers. We agree. We are currently examining what drives health care decision making from the perspectives of both health care providers and recipients, and are taking particular note of what makes the high performers "get it right".

Scott and Del Mar also commented on the issues of care received but not documented, the paucity of overuse indicators, and inter-rater reliability.[2] All these have already been addressed.[1,6]

Finally, Ackermann[3] and Mackay point out that CareTrack did not assess the quality of primary care practices. We agree. This was not the aim of the study. Our study simply aimed to determine the proportion of health care encounters at which adult Australians received appropriate care, regardless of the context in which it was delivered.

A new finding that seems to have emerged from our interactions with the expert commentators is that some commentators attach a weight to evidence-based recommendations that our findings demonstrate is not reflected in everyday practice. This reinforces our recommendation that much more work is needed on translating evidence into practice.[6]

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1 Runciman WB, Hunt TD, Hannaford NA, et al. CareTrack: assessing the appropriateness of health care delivery in Australia. *Med J Aust* 2012; 197: 100-105.

2 Scott IA, Del Mar CB. A dog walking on its hind legs? Implications of the CareTrack study [editorial]. *Med J Aust* 2012; 197: 67-68.

3 Ackermann E. Barriers to "appropriate care" in general practice. *Med J Aust* 2012; 197: 76-77.

4 Wright A, Bolam B. CareTrack: assessing the appropriateness of health care delivery in Australia [letter]. *Med J Aust* 2012; 197: 442.

5 National Stroke Foundation. Clinical guidelines for acute stroke management. Canberra: National Health and Medical Research Council, 2007.

6 Runciman WB, Coiera EW, Day RO, et al. Towards the delivery of appropriate health care in Australia. *Med J Aust* 2012; 197: 78-81.

7 Buchan H, Picone D. A call for action. *MJA Insight* 2012; 16 Jul. http://www.mjainsight.com.au/view?post=heather-buchan-debora-picone-a-call-for-action&post_id=9945 (accessed Jul 2012).

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