

support).

These developments (and Mann's concerns) raise the question as to who should pay for best-practice guidelines, including the evolving electronic conversion. Currently, the Australian government appears to lack a coherent approach to the provision of health information, at least with respect to best-practice clinical guidelines. For example, the Federal Government currently funds revision, production and distribution of *The Australian immunisation handbook*³ and the *Manual of use and interpretation of pathology tests*.⁴ More recently, the government has commendably funded a national subscription to the Cochrane Library. However, the government does not fund other equally valuable resources, such as the *Australian medicines handbook*⁵ or *Therapeutic guidelines*.¹ The latter survive solely on a user-pays market model.

It can be argued that it is time that the government adopted a more even-handed approach to stimulate the uptake of national best-practice guidelines and related services, perhaps by reimbursing health workers who subscribed to such services with practice incentive payments. This would lower the cost of practitioners acquiring national information resources, preserve the market model and assist guideline producers to meet the ongoing challenges of electronic conversion by improving their income stream.

disease by Mylonas and colleagues, because it included information on the cost of the disease. This makes it much easier to do something practical from a government and health economics perspective about the problem of RRV. The cost of \$1018 per patient, including costs of negative tests looking for cases, sums to a total estimated cost to the nation of \$5 million per annum (based on the reported average of 5000 cases per year in the study by Harley and colleagues²). Of note, \$567 was spent per patient on diagnostic tests (56% of the total cost per patient), while the authors noted that in many cases the condition was self-limiting.

I begin to wonder what is the use of spending \$567 per patient diagnosed to prove a largely self-limiting condition that is treated symptomatically? Banning RRV testing could save \$2.8 million per annum, which would be immediately available for mosquito control measures, and perhaps vaccine research, to reduce the burden of RRV disease. We could model the impact of a vaccination program — vaccine development cost, vaccine unit production cost, vaccine delivery, population target, and savings in disease prevented — to determine whether funding of vaccine research is worthwhile.

The point is that without economic data we cannot make sensible “evidence-based” clinical management decisions. We are trapped in a scientific

Itching bites may limit Ross River virus infection

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TO THE EDITOR: Dugdale proposed recently in the Journal that people who have a skin reaction to mosquito bites are less likely to be infected by Ross River virus than those who do not.¹ As he quotes Kumar, who made a similar comment about malaria infection,² one could presumably extend his idea to other conditions transmitted by mosquitoes. This accords with my own personal experience of dengue fever acquired in Fiji.

While serving there, I had two separate proven infections with dengue virus. As I react very little to mosquito bites, I could not identify the time of infection. Indeed, on the first occasion, I had just returned from a three-month stay in Adelaide and could not recall being bitten by a mosquito at all. In contrast, my wife, who developed large weals whenever bitten, went through at least three epidemics of dengue without being infected.

My advice to travellers who consult me is that there is an advantage to reacting badly to mosquitoes, as one is then more likely to take anti-mosquito precautions,

whereas the non-reactor is more likely to disregard them. However, Dugdale's suggestion that a local inflammatory reaction may be a factor in defence against infection is intriguing and worth following up. It should be simple to enquire retrospectively about reactions to mosquito bites in those who have had a mosquito-borne disease, as Dugdale has done for Ross River virus infection. This would provide evidence on which to base pathological and immunological studies.

1. Dugdale AE. Itching bites may limit Ross River virus infection [letter]. *Med J Aust* 2002; 177: 399-400.
2. Kumar A. Itching and immunity [letter]. *Lancet* 1996; 348: 1383. □

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TO THE EDITOR: Dugdale recently suggested that people who develop skin reactions to mosquito bites may be protected against Ross River virus (RRV) disease.¹ He noted that seven patients with a history of RRV disease all reported no skin reaction to mosquito bites, and 18 patients with no past history of RRV disease reported reacting to such bites. We argue that this correlation is entirely to be expected, as the lack of reaction to mosquito bites illustrates that the individuals have been previously exposed to many bites. At least two studies have shown a clear inverse correlation between mosquito exposure and bite reactions.^{2,3} Clearly, exposure to a large number of mosquito bites increases the risk of infection.⁴ Thus, a reaction to mosquito bites probably does not protect against RRV disease, but is simply a marker for low exposure to mosquito bites and therefore low risk of RRV infection.

The rationale behind the association of itching bites and protection against RRV infection is also tenuous. Virus is likely to reach the circulation within seconds of introduction by the mosquito, whereas allergic reactions take minutes to develop. It is unlikely that a local reaction will affect viral replication at distant sites.

In Dugdale's study, only people with a history of symptomatic RRV disease had undergone RRV serological testing.

As about 30% of Queenslanders are seropositive,⁵ and 60%–75% of RRV infections are thought to be asymptomatic,⁶ some of the 18 people with no past history of RRV disease might be expected to have had asymptomatic RRV infection. This raises the question, does reaction to mosquito bites correlate with asymptomatic RRV infection?

1. Dugdale AE. Itching bites may limit Ross River virus infection. *Med J Aust* 2002; 177: 399-400.
2. Mellanby K. Man's reaction to mosquito bites. *Nature* 1946; 158: 554.
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5. Phillips DA, Murray JR, Aaskov JG, Wiemers MA. Clinical and subclinical Barmah Forest virus infection in Queensland. *Med J Aust* 1990; 152: 463-466.
6. Harley D, Sleight A, Ritchie S. Ross River virus transmission, infection, and disease: a cross-disciplinary review. *Clin Microbiol Rev* 2001; 14: 909-932. □

Improving doctors' letters

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TO THE EDITOR: I support Tattersall and colleagues¹ in their attempt to use a wee bit of science and a dose of common sense to improve doctors' letters. While I would love to receive letters based on their proposed "prompt sheet", and should really try much harder myself to follow it, I'd be only too pleased — in the interim, while we await enlightenment — to receive *any letter* from some of my colleagues with whom I share what is supposed to be "multidisciplinary care" of patients. There is a research project in this for the brave to find out why, too often, communication is not merely inadequate but non-existent.

1. Tattersall MHN, Butow PN, Brown JE, Thompson JF. Improving doctors' letters. *Med J Aust* 2002; 177: 516-520. □

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