



The predicament of patients with suspected Ebola

We appreciate Eugene Richardson and colleagues' framing of the Ebola suspect using the "Ebola suspect's dilemma" heuristic.¹ Nevertheless, we disagree with some data used to inform their argument. For instance, the authors (presumably facetiously) mention that "a rational decision might be to deliberately infect yourself with malaria" on the basis of data showing that patients with plasmodium parasitaemia and Ebola virus disease who received anti-malarial treatment had 20% increased survival compared with a group infected with Ebola virus disease only.² In an independent cohort of patients with Ebola virus disease, the inverse was found to be true—mortality was significantly higher in patients with malaria and Ebola virus disease co-infection (66%) compared with patients with Ebola virus disease alone (52%).³ Thus, the apparent survival benefit has not been reproduced and caution should be exercised when suggesting a potential benefit of malaria in patients with Ebola virus disease. Additionally, the 25% chance of nosocomial transmission of Ebola virus disease cited by the authors is a probable overestimate given that only 3.3% of discharged negative patients returned to Ebola Holding Units in Sierra Leone with Ebola virus disease.⁴ Finally, we fully agree with the emphasis of this Comment on the importance of administering intravenous fluid as part of the clinical management of Ebola virus disease. To clarify, fluid loss associated with diarrhoea or shock might occasionally need "injection of saline solutions in extraordinary quantities",¹ as required for some cholera patients. However, as has now been seen in some patients with Ebola virus disease to whom such aggressive fluid resuscitation has been administered, the risk of fluid overload

is high, so such risks should be weighed against the potential benefits to appropriately tailor the therapy of a patient with Ebola virus disease.⁵

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- Richardson ET, Barrie MB, Nutt CT, et al. The Ebola suspect's dilemma. *Lancet Glob Health* 2017; **5**: e254–56.
- Rosenke K, Adjemian J, Munster VJ, et al. Plasmodium parasitemia associated with increased survival in Ebola virus-infected patients. *Clin Infect Dis* 2016; **63**: 1026–33.
- Waxman M, Aluisio AR, Rege S, Levine AC. Characteristics and survival of patients with Ebola virus infection, malaria, or both in Sierra Leone: a retrospective cohort study. *Lancet Infect Dis* 2017; published online Feb 28. [http://dx.doi.org/10.1016/S1473-3099\(17\)30112-3](http://dx.doi.org/10.1016/S1473-3099(17)30112-3).
- Arkell P, Youke D, Brown CS, et al. Quantifying the risk of nosocomial infection within Ebola Holding Units: a retrospective cohort study of negative patients discharged from five Ebola Holding Units in Western Area, Sierra Leone. *Trop Med Int Health* 2017; **22**: 32–40.
- Uyeki TM, Mehta AK, Davey RT Jr, et al, for the Working Group of the U.S.–European Clinical Network on Clinical Management of Ebola Virus Disease Patients in the U.S. and Europe. Clinical management of Ebola virus disease in the United States and Europe. *N Engl J Med* 2016; **374**: 636–46.