LETTERS—CONCISE RESEARCH REPORTS

Tracking Progress in Improving Diagnosis: a Framework for Defining Undesirable Diagnostic Events

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Dear Editor,

The authors of the recent article on defining diagnostic error[1] should be commended for their efforts to improve knowledge in this important and underdeveloped area. It is certainly a step forward.

However, their current framework is untenable: there are too few diseases that would fit any of their criteria, and the prevalence and underlying within disease variability of them varies so widely as to make comparisons between services unhelpful.

For example, their three examples are all from infectious disease (ID). Diagnosis in ID is always complicated by changes in the epidemiology of microbes, which is often complex, unpredictable and local. Meningitis, one of their examples, has multiple serotypes. There is current outbreak of serogroup W meningococcal disease in the UK. In one recent case series of 15 people, 7 presented with a short history of nausea, diarrhoea and vomiting: 5 of these 7 died within 24 h of presentation (http://www.eurosurveillance.org/images/dynamic/EE/V21N12/art21422.pdf). These mostly represented meningococcal septicaemia rather than meningitis, but it is not inconceivable to see how this would alter local diagnostic strategies, outcomes, and considerations of meningococcal disease, that would make comparisons with other services very difficult. As the vaccination programme for MenB and MenW rolls out, the epidemiology will again change. Meningitis in one centre is not the same as meningitis in another, due to local microbiological differences.

Proponents will argue that one can always adjust for prevalence of disease locally, in order to enable comparisons between centres. However, this approach does not capture the underlying difference in the nature of disease between two centres. Meningitis is not one disease: it is a syndrome caused by underlying microbiology interacting with host factors. The same is true of TB, or epidural abscess (the other two examples). HIV associated TB in rural South Africa is almost completely different in epidemiology, presentation, and outcome, to TB in an aging, largely white population in rural England, which is again different to TB in homeless patients in Seattle.

Comparing diagnostic error across these groups is very unlikely to give a meaningful answer. As the authors comment, rheumatoid arthritis has too varied a presentation to be considered readily clinically diagnosable: yet the same is likely true for meningitis.

It is clear that diagnostic error is common, and trying to enable comparisons between services is to be welcomed. This instrument is too blunt to enable meaningful comparison—but certainly it is a novel idea that should be welcomed in principle.

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REFERENCE

1. Tracking Progress in Improving Diagnosis: A Framework for Defining Undesirable Diagnostic Events, Olson et al 2018, https://doi.org/10.1007/s11606-018-4304-2

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