Imaginary Worlds: The Status of Modeled Quality Adjusted Life Year Claims for New Oral Anticoagulants in Atrial Fibrillation Published Between January 2012 and February 2016

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DOI: https://doi.org/10.24926/iip.v7i3.450

keywords:

new oral anticoagulant (NOAC), quality-adjusted life years (QALYs), modeling, credibility, imaginary worlds, pseudoscience, adherence

abstract

The purpose of this commentary is to evaluate modeled quality adjusted life year claims (QALYs) for new oral anticoagulants (NOACs) published in the period from January 2012 to February 2016. The focus of this commentary is to assess whether or not the modeled claims meet the standards of normal science in supporting falsification and replication. A systematic and consensus review by the authors identified a total of 23 cost-utility NOACs evaluations along with four single technology appraisals undertaken by the National Institute for Health and Care Excellence (NICE) in the UK. Each study was evaluated in terms of four criteria: (i) did the study generate evaluable claims (ii) id the

authors attempt to generate evaluable claims (iii) did the authors suggest how the claims might be evaluated and (iv) did the authors caution readers as to the implications of generating non-evaluable projections or claims for credibility in health system decision making? None of the 23 studies assessed or the four NICE single technology appraisals met any of the four assessment criteria. None of the studies presented projections or claims in a form suitable for empirical evaluation. None could support falsification or replication. They failed the standards associated with the scientific method. Failure to meet the standards of normal science meant that the studies, from a formulary assessment perspective, are not credible. The claims made were either impossible to verify, or if potentially verifiable, were not presented in a testable form. There was no basis for assessing whether the claims were right or even if they were wrong. This lack of scientific credibility is a major concern. In particular, the choice of a lifetime cost-utility framework for assessing the NOACs against warfarin and against each other effectively precludes any experimental assessment. If medical economics is to advance through the formulation and testing of hypotheses, then editors of journals should consider whether or not to set standards for the acceptance of publications to include the requirement for testable claims and the results of claims assessment. If this is not acceptable, then it should be made clear that published modeled claims and simulations are simply imaginary worlds or thought experiments. Editors cannot sit back and assume that at some time in the future non-testable projections will possibly be evaluated.

Conflict of Interest

None

Type: Commentary

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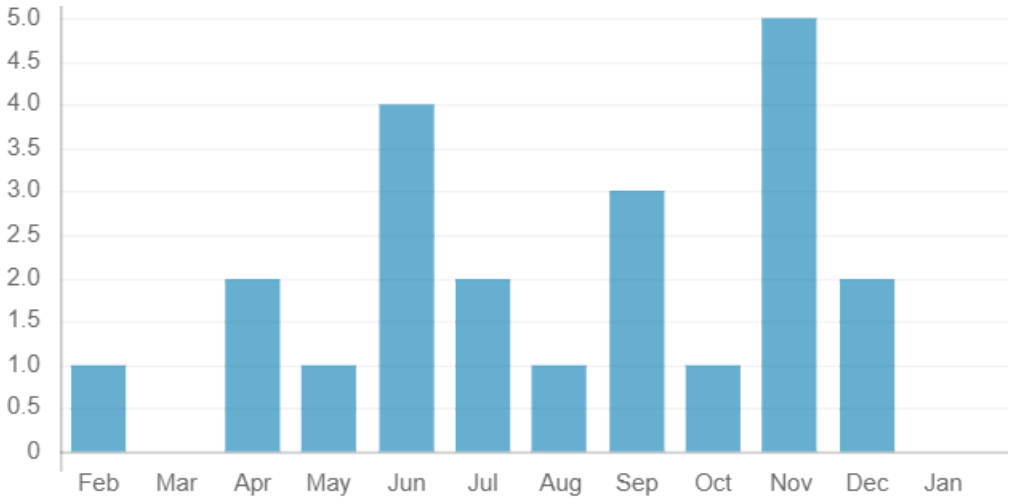

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PUBLISHED

2016-09-09

ISSUE

Vol 7 No 3 (2016)

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