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BOOK REVIEW

An introduction to health economics and its application to the implementation of genomic medicine

Economic evaluation in Genomic Medicine
Edited by: Vasilios Fragoulakis, Christina Mitropolou, Marc S Williams and George P Patrinos
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Economic Evaluation in Genomic Medicine by Fragoulakis *et al*. is aimed at non-health economists with an interest in this area. The first half of the book serves as an introduction to commonly applied health economic principles and techniques that will be familiar to those with more health economic experience or training. This section goes into considerable detail, which makes it a very 'dense' read and that is hard to retain, but it does communicate the key principles and I can see it serving a useful reference purpose when analyzing or being involved in health economic studies or health technology assessments. However, it would benefit from recap or text-boxes of key points and more graphical or non-mathematical/metaphorical descriptions to aid understanding and readability.

The second half of the book then really looks to relate health economics to how it has and could be applied genomic medicine. This looks to summarise some of the key relevant studies performed, for example, on pharmacogenetic stratification of warfarin dosing, as well as start to think about how health economic analysis is evolving to address some of the deficiencies in this area, for example, incorporating assessment of innovativeness of an intervention. This gives a good balanced description of the current position, although is somewhat brief on the context, limitations, and necessary progress of health economics to assist decisions on the appropriate implementation of genomic medicine.

Given the wide-audience that is being aimed at the book would benefit from a broader introduction in a few areas, for example, the current position, potential and major challenges of the move to genomic/personalised/precision medicine. I felt there was lack of detailed discussion on specific challenges of economic evaluation of genomics that I was anticipating, such as: the particular challenges of assessing orphan drugs; 'valuing' the non-health benefits of diagnosis in a patient with a rare or undiagnosed disease; and likely changes to trial, assessment and regulatory mechanisms that will impact required economic analyses and the data available as we move forwards with genomic medicine.

Overall this text provides a useful introduction to health economics for non-specialists interested in how it can be applied to genomics, and the relevance of this on policy, reimbursement, and availability of diagnostics and related therapies. Hopefully, any future editions will augment discussion on the wider context and limitations, and potential evolution of current health economic methodology as it relates to personalised medicine to demonstrate the role health economics can have in facilitating this.

CONFLICT OF INTEREST

RH is an employee and owns stock in Illumina Inc.

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