

REDUCTION OF BIAS OR A BURDEN? THE USE OF INDIVIDUAL-PATIENT MODELS FOR SUBMISSION TO HTA AUTHORITIES

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Issue panel

Introduction

- Pros and cons of patient-level models - Manuela Joore, MUMC+

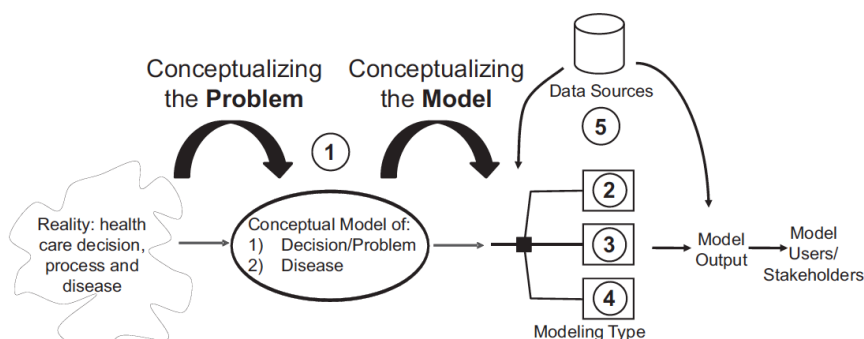
Three perspectives:

- Consultant - Jaime Caro, Evidera
- Evidence Review Group - Bram Ramaekers, MUMC+
- NICE Appraisal Committee - Paul Tappenden, Univ. Sheffield

- Discussion



Best practices to conceptualising a problem



The conceptual structure should be driven by the decision problem or research question and not determined by data availability.

Best practices for conceptualising a model

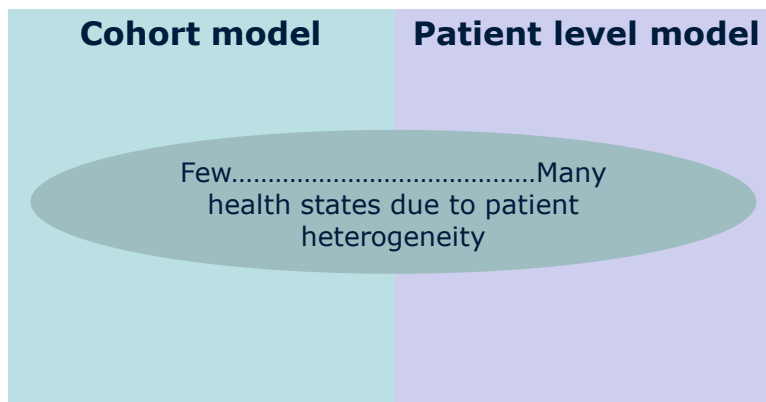
- Several model types may be suitable. Some problems are more naturally represented in some types than others:
 - If the conceptualization involves representing the disease or treatment process as a series of health states, state-transition models are appropriate. Individual state-transition models are an alternative when **number of states grows too large** (due to Markovian assumption).
 - When the disease or treatment process includes **interactions**, or the problem involves **resource constraints**, the methods should be able to represent those interactions and evaluate their effects. (dynamic transition, DES, agent-based)
 - **Model simplicity is desirable** for transparency, ease of analysis, validation and description. But, increased complexity may improve **face validity**. The model must be complex enough to ensure differences in value across the strategies are **faithfully** represented.

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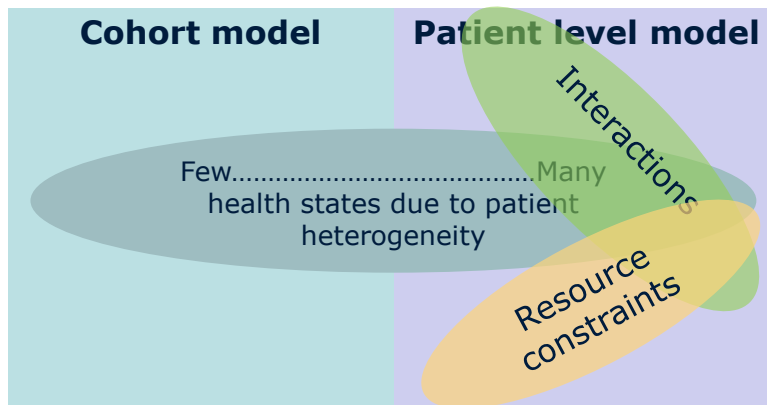
Roberts et al. ViH 2012 ISPOR-SMDM Modeling Good Practices Task Force 5

Heterogeneity → many health states,
interaction, resource constraints, complexity



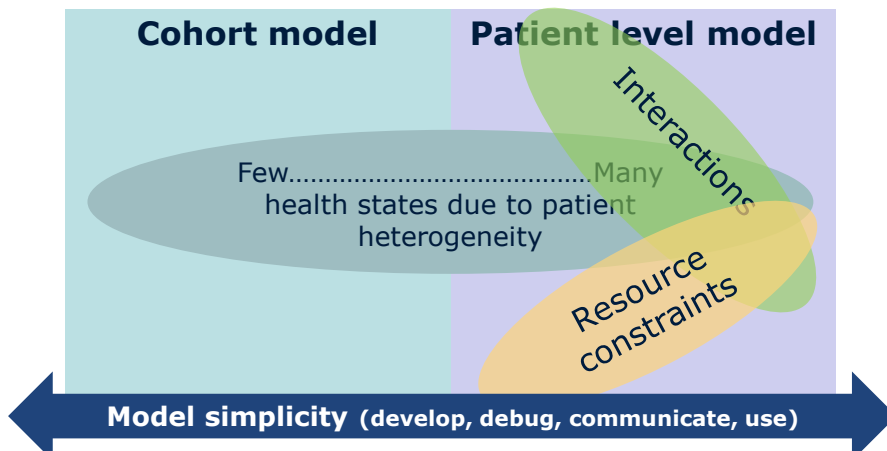
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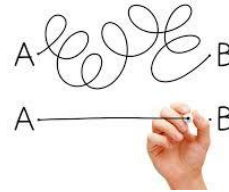
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Model simplicity: Patient-level models...



- are not necessarily more complex than cohort models,
 - but are less familiar & standardised
- usually have longer runtime than cohort models, which can conflict with timelines
- are more data hungry, but conceptual structure should be driven by the decision problem and not by data availability

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Thank you!

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