
OHE
Are open-source models *really* for HTA and policy?
#OpenSourceModels

Why open source?

Good science

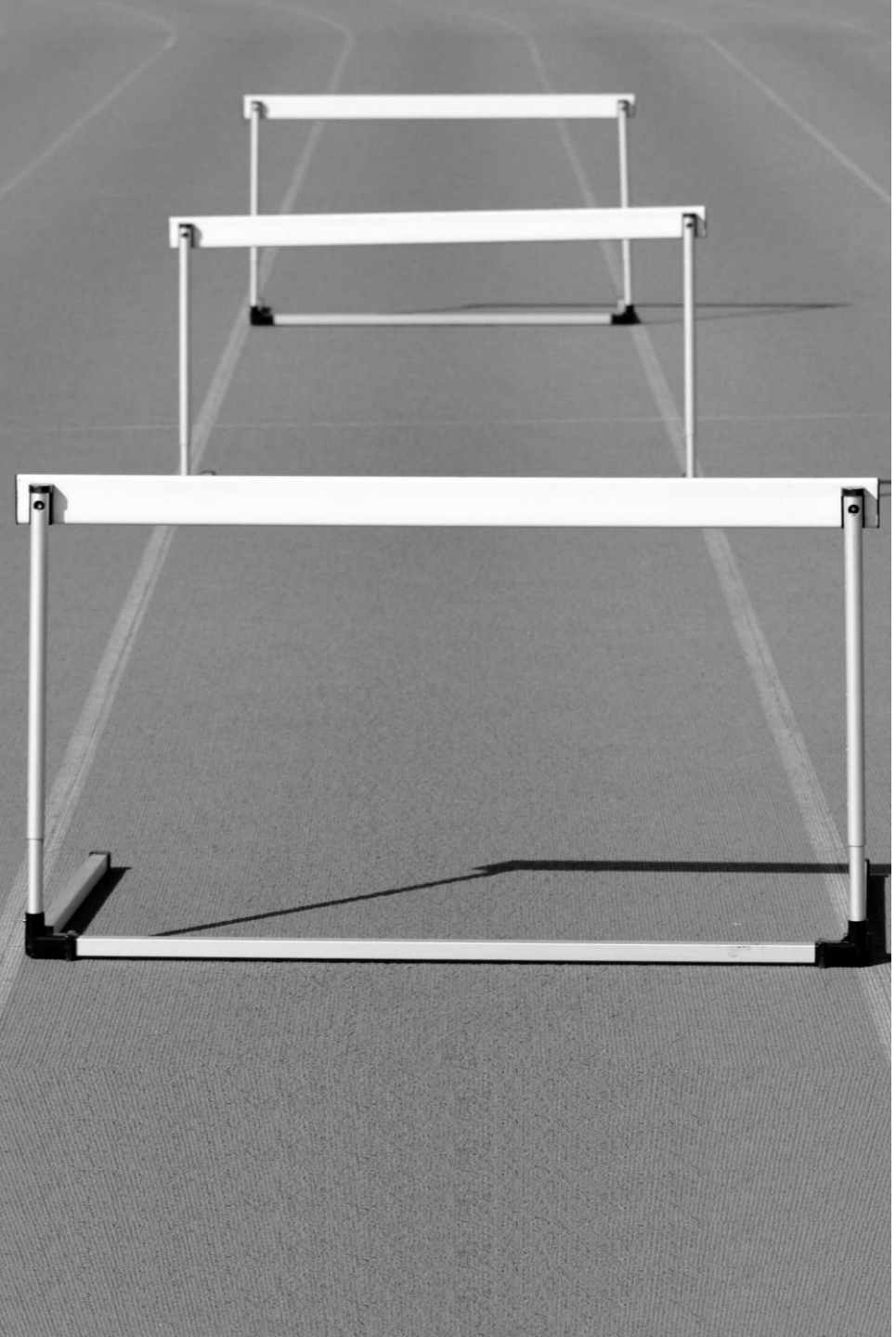
Efficiency savings

Improved methods

Better decisions

Learning

Photo by @SGravelius



Transparent modelling initiatives come in different flavours

OPEN DEVELOPMENT (E.G. IVI)

- ✓ Stakeholder buy-in
- ✓ Reporting standards

MODEL SHARING (E.G. PEER MODELS NETWORK)

- ✓ Open access
- ✓ Interoperability

COLLABORATION (E.G. MOUNT HOOD)

- ✓ Experts only
- ✓ Methods development

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SIG survey findings

- Use by HTA agencies is a very important signal
- Lack of interest from decision-makers perceived as a key barrier
- Concerns about commercial barriers and difficulties with data sharing

ISPOR Report

Opportunities and Barriers to the Development and Use of Open Source Health Economic Models: A Survey

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Disclaimer

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- Views expressed are my own and not those of NICE
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Why not?

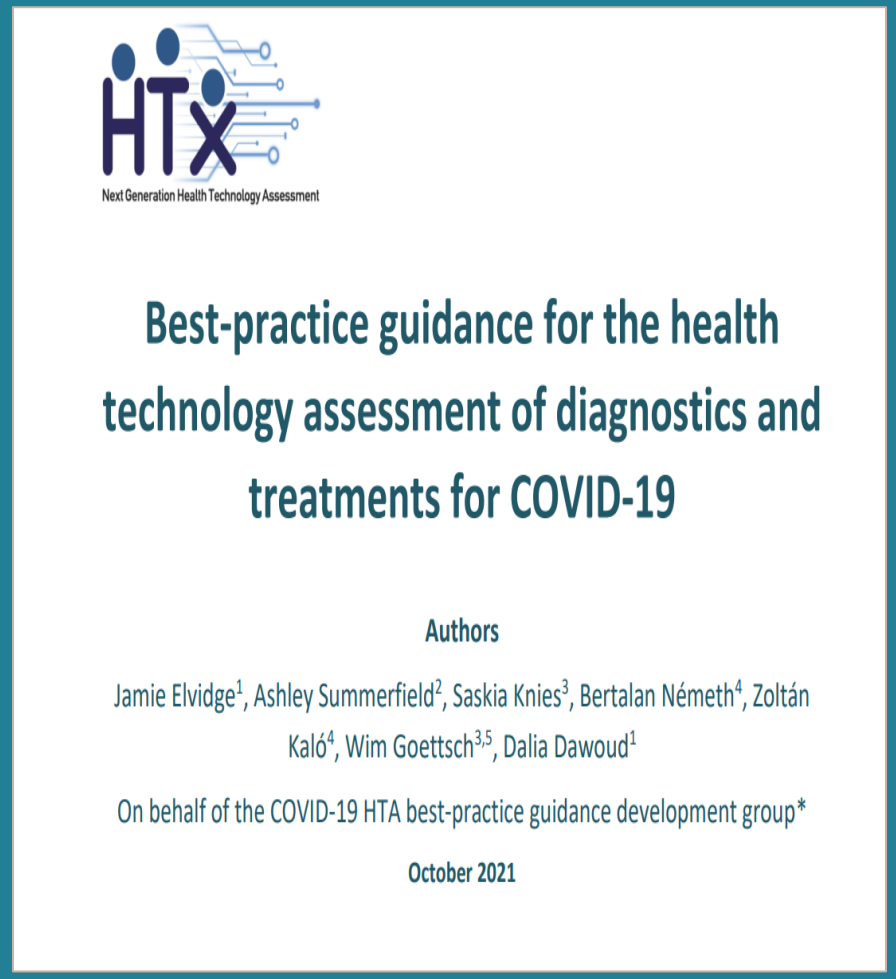
- Confidentiality
- Ownership
- Maintenance and updating
- Complexity
- Experience and skills
- Resistance to change
- Industry’s resistance

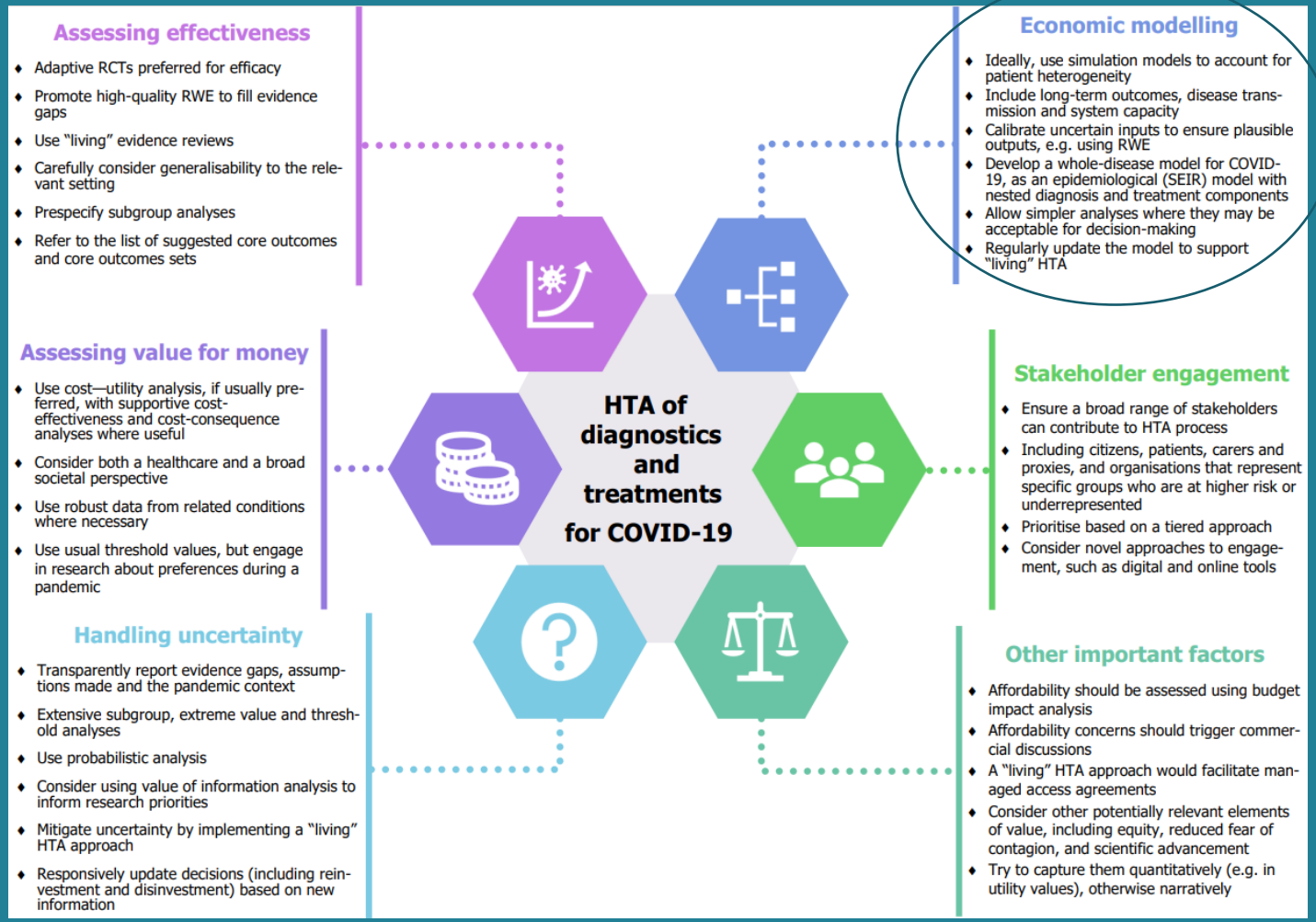
Why?

- Transparency
- Collaboration
- Efficiency
- Peer reviewing
- Functionality
- Innovation

NICE

COVID-19 Best Practice Guidance





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“Living” HTA

- Mitigate uncertainty by implementing a responsive approach
- Review decisions in response to new information
  - Including disinvestment
  - Health Technology **Management**
- Develop a COVID-19 whole-disease pathway simulation model
  - Flexible, modular, transparent
  - Responsive & ongoing updates
  - Facilitate rapid decision making & prioritisation

Practical considerations
- Commissioning & ownership
- Data access & transfer
- Ongoing management
- Review & critique
- Barriers to use

Are open-source models really for health technology assessment and health policy?

Lumen Value & Access

Objectives for making models publicly available:

- Transparency — external verification and validation
- Consistency — reusing *trusted* models in specific settings
- Efficiency — leveraging code from previous work
- Innovation — disseminating examples for new methodologies

Conceptual / policy considerations:

- (Corporate) transparency and thought leadership
- False sense of transparency and quality:
  - The model does not detail the modelling process
  - Open-source models are not necessarily good models
- Framework for claiming open-source in this context:
  - Value of publishing models vs. data
  - External peer-review process
  - Mandatory use of models

Technical / practical considerations:

- Data sharing and the (potential) role for synthetic data
- Resources and expertise for reviewing OSM outside of HTA process
- Timing / triggers, responsibility and funding for model updating
- Documentation and certification of updated model versions

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ISPOR Europe 2022

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Disclaimer

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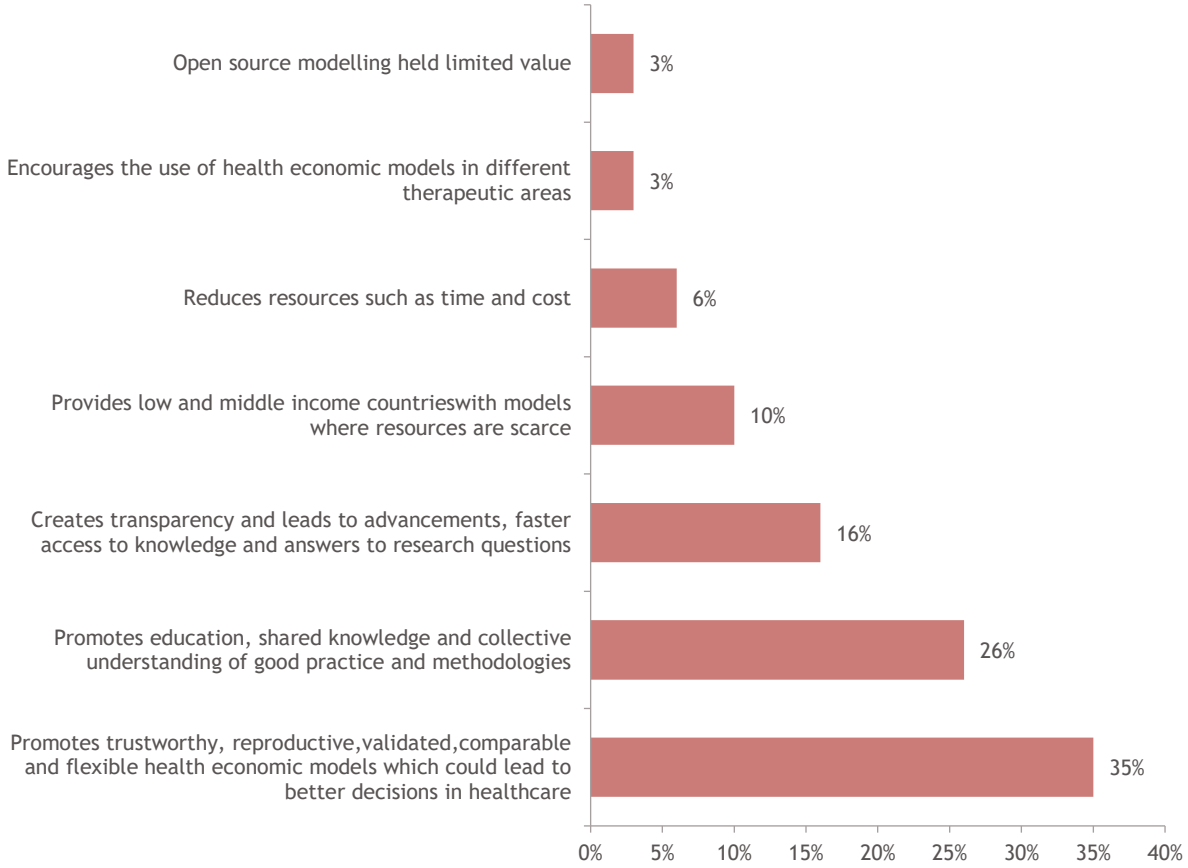
What are the stakeholder's consideration about OSMs



How important do you consider each of the following potential uses of OSMs?

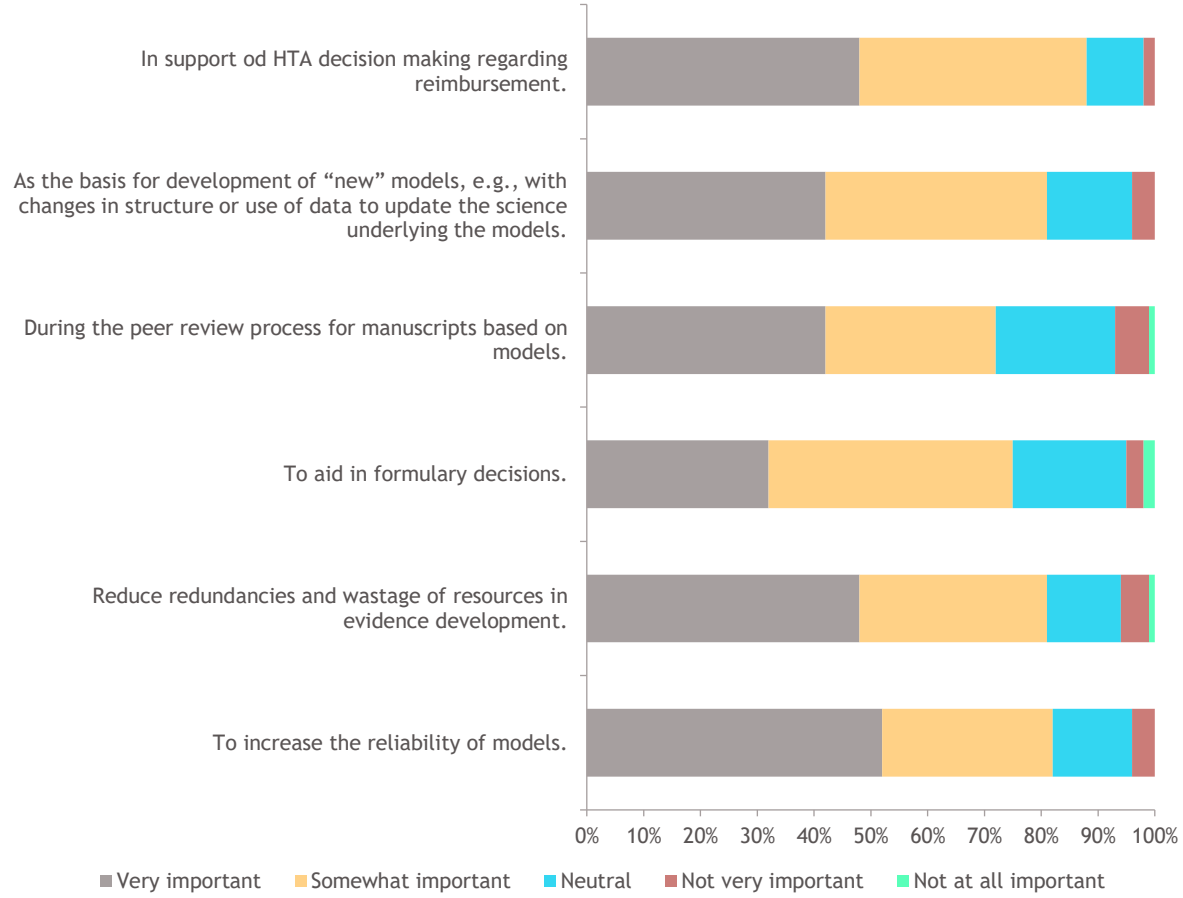


Fig. 2 Frequently mentioned benefits of open-source health economic models

Making health economic models available in an open format was considered beneficial by the different stakeholders independently of their purpose

Dunlop WCN, Mason N, Kenworthy J, Akehurst RL. Pharmacoeconomics. 2017 Jan;35(1):125-128

Pouwels XGLV, Sampson CJ, Arnold RJG. Value Health. 2022 Apr;25(4):473-479

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Objectives for making models publicly available:

- **Efficiency**: Reduce redundancy in evidence development
- **Innovation**: Disseminating examples for new methodologies
- **Consistency**: Reusing *trusted* models in specific settings
- **Transparency**: External verification and Validation
  - Will decision makers / HTA go open-source as well?

Conceptual/policy considerations:

- Corporate transparency and commercial sensitivity
- Documentation and certification of updated model versions
- Timing/triggers, responsibility and funding for model updating

Technical/practical considerations:

- Languages employed in OSM are not the usually required by HTA
- Internal / External Capabilities
- Fit for purpose