Defining and Overcoming Barriers to R in Health Economic Assessments: Insights and Pathways Forward

R for Health Technology Assessment (HTA) workshop
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Disclaimer

The views and opinions expressed in this presentation are those
of the presenters and do not necessarily represent the official position of GSK

Rationale and objectives

Develop health economic models alongside the product development lifecycle by adopting code-based R-modelling to ensure efficiency and sustainability

Opportunities, barriers, and solutions

Enabling factors

- Company-wide technical environment to support the use of R for analytical purposes
- Team expertise in R-modelling and continuous capability development
- Several health economics projects being developed in R, both in-house and in external collaboration
- Selected agencies, such as ZIN, accept, or encourage, the use of models in R
- Growing capabilities in the R community, including academia and vendors

Barriers

- Some specialized models are developed using R, However, most core health economic models are developed in the "traditional“ (Excel) format to meet the requirements of multiple markets adaptation
- User technical capability
- Transparency
- Package version control, non-validated packages.

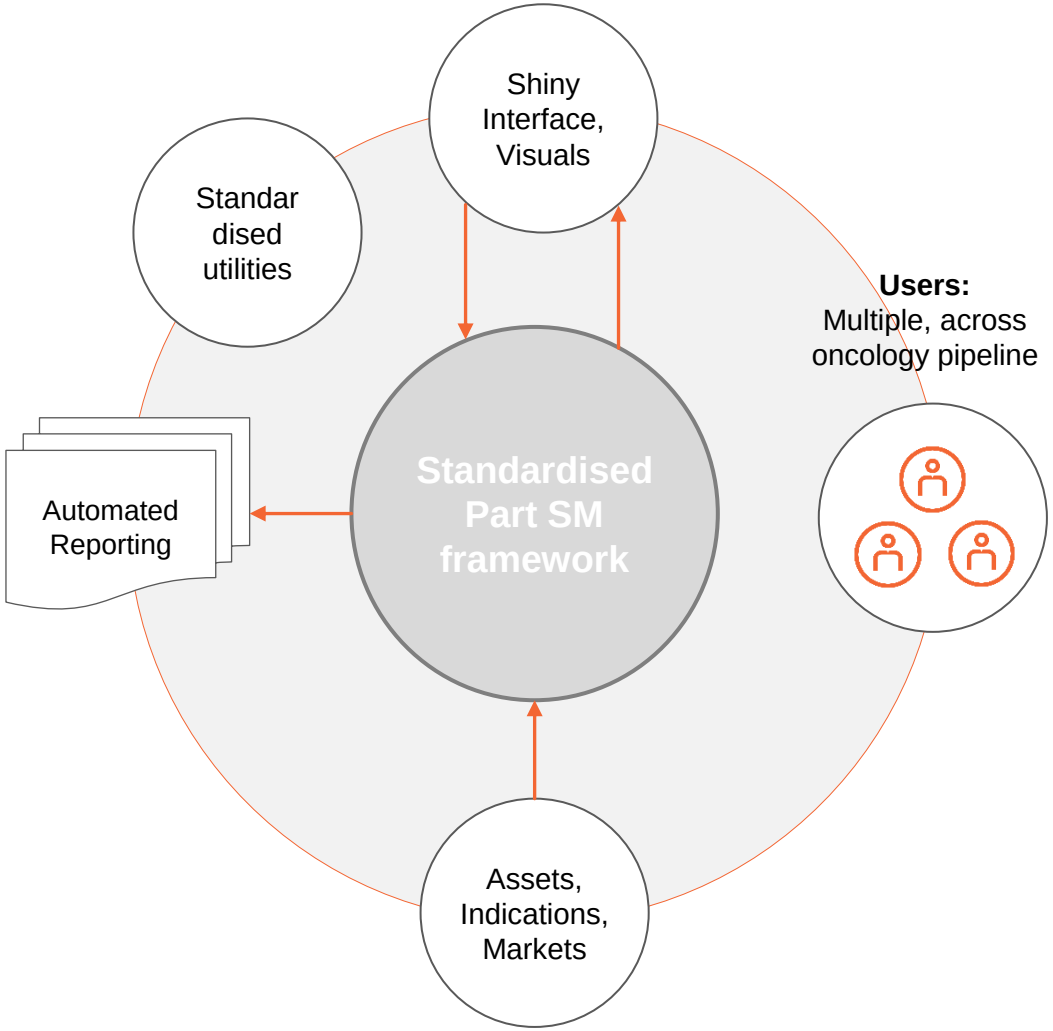
Solutions

- Where practical, develop R local versions based on global Excel models
- On a case-by-case basis, HTA R-models could preferred due to therapeutic area or country preference.
- Where feasible, develop R models for internal purposes, such as early-stage health economic assessment
- Focus on internal capability development and sustainability.
- Develop and pilot standardized modeling solutions to prepare for future R adoption for HTA submissions.

The value of R-based health economics models
what drives decisions to build R-based HE models

1. Efficiency, visualization
2. Team-style development within secure company GitHub repository
3. Building re-usable set of utilities and quality-assurance tools
4. Communication via Shiny interface, automated reporting
5. Early-stage health economic models:
6. Ease of adaptation and updates, multi-market applications
7. Platform solutions

Early Health Economic Modelling Platform in Oncology



Main expected use:

- Understanding key value determinants
- Informing data generation needs
- Pricing discussions

Key features:

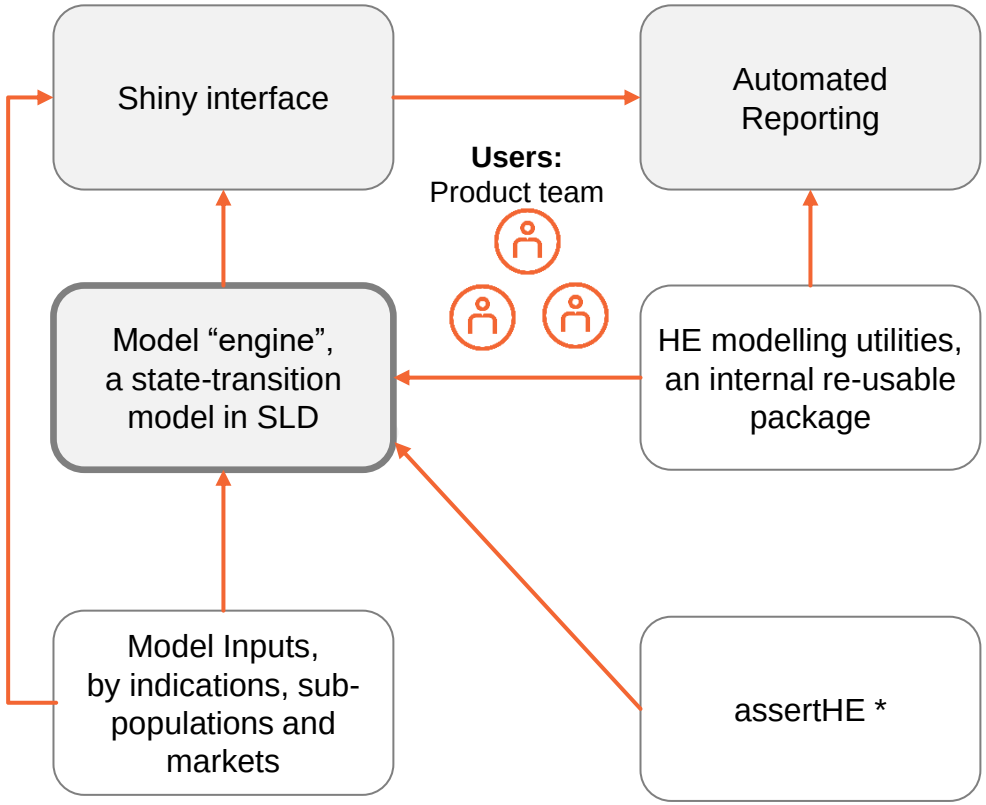
1. Intuitive R Shiny interface enabling interaction that caters to multiple audiences
2. Expandable functionality for cross-asset value exploration and communication
3. Achieving the economy of scope: supporting several cancer assets, with multiple indications, led by asset-specific teams
4. The ability to store analysis in one place vs keeping multiple versions
5. Building cross team awareness and collaboration

Project lead: **Tom Ward**

Use case in Steatotic Liver Disease (SLD)

An R-Shiny early health economic modelling platform

Early Health Economic Model



Project leads: **Yevgeniy Samyshkin, Helen Smith**

Main expected features

Early health economic value

- Key value determinants, data generation needs, pricing discussions

Addressing the need in a several indications within one disease area

- A disease “model engine”, broadly accepted and published

Flexibility

- Expandable to multiple markets
- Market specific inputs updatable outside the model engine

Consistency and clarity of communication

- Standardised, reproducible automated reports

HTA potential

- Can serve as a prototype for future HTA models
- Fits within an on-going UK HTA disease modelling initiative in MASH (HTA Lab) aimed to increase

Success factors for R adoptions for HTA health economic models

1. Future acceptance by HTA agencies
2. Demonstrating value across the product development teams
3. Engagement with key stakeholders
4. Continuous capability development by building internal expertise and collaborations with vendors
5. Enabling technical infrastructure and embracing innovation

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Thank you