



The HEcoPerMed project responds to the demand for economic models that evaluate treatments made possible through innovations in Personalised Medicine (PM). With our 1st newsletter, we inform you about the latest developments in modelling funding and reimbursement mechanisms that provide financial incentives for the rapid progress and uptake of PM innovations.

# 23 Recommendations on modelling Personalised Medicine

Given current ambiguity about how to measure the value of personalised medicine as well as considerable variation in the methodology and reporting in economic evaluations of PM, one objective of HEcoPerMed was to develop guidance that can contribute to improved consistency and quality in economic evaluations of personalised medicine.

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# Financing and reimbursement models for Personalised Medicine

One objective of HEcoPerMed was to identify existing financing and reimbursement models suitable to provide incentives for rapid development, translation and uptake of PM. To fulfil this objective, we performed a systematic literature review and identified 114 publications and reports that develop and describe financing and reimbursement models used for personalised medicine approaches.

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### Improved models for MODY treatment

Our **1st case study** addresses MODY (Maturity Onset Diabetes of the Young). MODY differs from known type 1 and type 2 diabetes and can be successfully treated with sulfonylureas or even without pharmacological treatment. Screening of high risk diabetic patients younger than 35 (determined by MODY calculator) treated with insulin could lead to a better quality of life (QoL) and decreased treatment costs. Patients' progression is modelled by using an individual level Markov simulation model with 20 years' time horizon to consider the costs and benefits of screening for MODY patients.

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#### ToxNav test to personalise cancer treatment

Our **2nd case study** tackles adverse reactions to cancer treatments. Fluorpyrimidine-based chemotherapy drugs have long been used for the treatment of primary and advanced solid tumours such as colorectal, esophageal and breast. Usually cancer patients that are treated with such drugs tolerate the therapy well. However, up to 30% of these patients might develop severe or mild adverse reactions. ToxNav, a CE marked test, is designed to identify patients most at risk from severe drug reactions before treatment with 5FU/capecitabine. This allows to personalise their treatment with chemotherapy on the basis of individual patient characteristics. Our model evaluates the impact of adverse reactions on patients' quality of life and survival, as well as on healthcare costs, and follows the cohort of patients through their potential progression to advanced disease, or death from metastatic breast cancer or other causes.

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### Developing a health economic model for the use of TRK inhibitors

Our **3rd case study** focuses on developing a model for the use of a specific class of drugs: Recently, the European Medicine Agency (EMA) approved entrectinib and larotrectinib for tumours driven by neurotrophin receptors (NTRK) gene fusions. Our NTRK case study focuses on entrectinib, including larotrectinib as a comparator. The structure of the health economic model consists of a decision-tree, reflecting the testing phase, combined with a partitioned survival model.

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### What is HEcoPerMed?

HEcoPerMed stands for 'Health Economics for Personalised Medicine'. The project responds to the demand for economic models that evaluate treatments made possible through innovations in personalised medicine.

The comprehensive approach of HEcoPerMed will fill a gap identified by the <u>IC PerMed</u> and support their efforts in the promotion of personalised medicine in Europe and beyond.

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# Imprint

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