OBJECTIVES: Breast cancer is the most common malignant disease in Western women. In the ONCOTRYPL research center, a decision-analytic Breast Cancer Outcomes & Policy (BCOP) model is being developed to evaluate the cost-effectiveness of the new 21-gene assay that supports personalized decisions on adjuvant chemotherapy. Model validation is essential to build confidence in the model results and to influence decision makers. Based on the new ISPOR-SMDM best practice recommendations, the process of model validation will be presented.

METHODS: The 21-gene assay was evaluated by simulating a hypothetical cohort of 50 year old women over a lifetime time horizon, adopting a societal perspective. Main model inputs were disease progression and treatment probabilities. The validation process included a comparison of results and model outcomes to observed data as well as a sensitivity analysis. Cross validation was performed to test the robustness of the model predictions.

RESULTS: The model showed that the new 21-gene assay improves breast cancer outcomes and it is cost-effective compared to current practice.

CONCLUSIONS: The BCOP model is a useful tool for decision makers and researchers to understand the potential impact of new breast cancer treatments and diagnostics. Further validation efforts are needed to improve the model’s accuracy and reliability.

References: