MO3

LESSONS LEARNED FROM A CROSS-VALIDATION BETWEEN A DISCRETE-EVENT SIMULATION MODULAR ARCHITECTURE (ONCOTYROL) AND A MARKOV MODEL FOR PERSONALIZED BREAST CANCER TREATMENT

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OBJECTIVES: Breast cancer is the most common malignant disease in Western women. In the ONCOTYROL research center, a Breast Cancer Outcomes & Policy (ONCOTYROL) model was developed to evaluate the cost-effectiveness of the new 21-gene assay that supports personalized decisions on adjuvant chemotherapy. The goal of this study was to validate our Oncotyrol-model. METHODS: The 21-gene assay was evaluated by simulating treatment courses for 60 hypothetical elderly women over a lifetime time horizon using a discrete event simulation model. Main model outcomes were life-years gained, quality-adjusted life-years (QALYs) and costs. Based on the new ISPOR-SMDM best practice recommendations, the model was reviewed. Major focus was on the experience of the cross validation, i.e. the comparison of modeling results between the discrete-event-simulation ONCOTYROL-model and the THETA-model (Toronto Health Economics and Technology Assessment Collaborative) which is a Markov model. Therefore, the Oncotyrol-model has been populated with the Canadian THETA-model parameters. Cross validation started with a comparison of the natural history followed by QALYs and costs. RESULTS: The relative differences varied among the model outcomes. The smallest differences were found for costs, the highest for QALYs. All differences were smaller than 2.5%. The comparison of efficiency frontiers showed that small differences due to the modeling approach can lead to a different set of non-dominated treatment-strategies. The cross model validation involved several challenges: distinguishing between outcomes differences to correct modeling techniques and errors, definitions of meaningful differences and comparison techniques (mean estimates, distributions, multivariable outcomes). CONCLUSIONS: Cross-model validation was crucial to identify and correct modeling errors and to explain remaining differences of modeling results. However, small differences can lead to relevant changes in cost-effectiveness results.

MO4

TREATMENT DISCONTINUATION IN ECONOMIC MODELLING OF ONCOLOGY THERAPIES: SYSTEMATIC REVIEW AND BEST PRACTICES ANALYSIS

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OBJECTIVES: Compliance and treatment duration can have a significant impact on costs and health outcomes in health-economic assessments, especially in high-cost therapy areas such as oncology. The aim of this systematic review was to systematically review different methods for addressing treatment compliance and discontinuation in oncology economic models, critique the identified methodologies, and highlight best practices. METHODS: A systematic review was undertaken to investigate the different methods that could be used to include compliance and treatment discontinuation in economic modelling in oncology populations. MEDLINE, Embase, EconLit and the Cochrane Library (from 2000 onwards), and technology assessment documents and manufacturer submissions to the National Institute for Health and Clinical Excellence (NICE) were searched for economic analyses which mentioned compliance or discontinuation. Results were filtered using pre-specified selection criteria and data extracted into a pre-defined template. RESULTS: Sixty-eight publications of 51 models were included, comprising 24 cost-utility analyses, 26 cost-effectiveness analyses, and 48 technology assessment documents. Fourteen methods for addressing discontinuation were identified, which could be grouped into two categories. RESULTS: The methodology and level of importance of “economic” aspects in HTA.

Conclusions: Early development of HTA in Italy has been driven by hospital-based (HB HTA). HB HTA can support administrative procedures increasing transparency and promoting the bottom-up awareness around HTA principles. Whether HTA has an impact on hospital expenditure and consumption of health technologies, particularly medical devices (MDs), has not been investigated. This research aimed at exploring potential HB HTA’s impact on purchased MDs, once assessed its diffusion in Italy. METHODS: We run a survey, based on a semi-structured on line questionnaire, on a sample of Italian Healthcare trusts, asking for 2008-2009 data about consumption and unitary costs of a class of MDs (e.g. coronary stents) and HTA activities. HB HTA’s activities have been surveyed in terms of diffusion and structural/organizational characteristics. We assessed in a multivariate analysis whether an association exists between the implementation of HTA activities and MDs diffusion at the local level. RESULTS: Given 46 respondents, located in 15 Italian Regions, 22 (48%) have a commission for MDs. Commissions meet almost monthly and encompass at an average 10 members (SD=±4). On average there was no clear lack of evidence either way to suggest that the reforms were having an impact on frontline healthcare delivery. CONCLUSIONS: The UK NHS Reforms were always going to be challenging due to their scale and complexity. However there has been a clear lack of direction and consensus levels leading to uncertainty and fears for the short and medium term future.

PA2

HOSPITAL-BASED HTA IN ITALY: DIFFUSION AND POTENTIAL IMPACT

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OBJECTIVES: Early development of HTA in Italy has been driven by hospital-based (HB HTA). HB HTA can support administrative procedures increasing transparency and promoting the bottom-up awareness around HTA principles. Whether HTA has an impact on hospital expenditure and consumption of health technologies, particularly medical devices (MDs), has not been investigated. This research aimed at exploring potential HB HTA’s impact on purchased MDs, once assessed its diffusion in Italy. METHODS: We run a survey, based on a semi-structured on line questionnaire, on a sample of Italian Healthcare trusts, asking for 2008-2009 data about consumption and unitary costs of a class of MDs (e.g. coronary stents) and HTA activities. HB HTA’s activities have been surveyed in terms of diffusion and structural/organizational characteristics. We assessed in a multivariate analysis whether an association exists between the implementation of HTA activities and MDs diffusion at the local level. RESULTS: Given 46 respondents, located in 15 Italian Regions, 22 (48%) have a commission for MDs. Commissions meet almost monthly and encompass at an average 10 members (SD=±4). On average there was no clear lack of evidence either way to suggest that the reforms were having an impact on frontline healthcare delivery. CONCLUSIONS: The UK NHS Reforms were always going to be challenging due to their scale and complexity. However there has been a clear lack of direction and consensus levels leading to uncertainty and fears for the short and medium term future.

PA3

LIMITED ACCESS TO CATARACT SURGERY IN POLAND

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OBJECTIVES: Cataract surgery is commonly performed in developed countries. Artificial lens implantation is considered to be one of the most cost-effective medical interventions. The aim of this analysis was to describe the organization of cataract surgery in Poland and compare access and quality of care with other countries. METHODS: Access to cataract surgeries was assessed on the base of statistical reports issued by National Health Fund (NHF) regarding number and structure of cataract surgeries and waiting times. Epidemiological data was used to estimate number of patients qualifying for treatment. Data on reimbursement was obtained from Ministry of Health and NHF. To supplement publicly available data, a number of clinical experts were consulted. RESULTS: Each year 170k cataract surgeries are reimbursed in Poland. 300k patients are currently in a queue for surgery. Governmental guidelines could raise more attention to compliance in economic modelling and could improve the accuracy of economic models.