marised recommendations on appropriate evidence sources for different model parameters in a narrative manner. Additionally, information on advantages and disadvantages of sources, on evidence identification methods and on data quality issues was extracted. RESULTS: Twenty-eight documents fulfilled our inclusion criteria. We identified a large variety of evidence sources for informing model parameters on clinical effect size, natural history of disease, resource use, unit costs and health state utility values. They comprise research and non-research based sources. The documents do not provide structured advice on the hierarchy of evidence and the identification of critical sources. The information is presented fragmentarily and is not tailored to specific model types. CONCLUSIONS: The usability of guidelines and manuals for modelling could be improved by addressing the issue of appropriate evidence sources in a more structured and comprehensive format.

PM96 MODELLING UNCERTAIN FUTURE EVENTS IN COST-EFFECTIVENESS ANALYSIS
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OBJECTIVES: When the appropriate time horizon exceeds the evidence time horizon in a cost-effectiveness decision model, numerous uncertainties arise. One potential source of uncertainty is that of a possible future event that may affect one or more model parameters, e.g. a price shock or the emergence of a new comparator. These uncertain future events (UFEs) are rarely accounted for in health technology assessment and there is a dearth of guidance regarding how they should be modelled. The objective of this study is to describe the circumstances under which UFEs could meaningfully impact cost-effectiveness estimates, and to present examples of appropriate modelling techniques using a motivating example.
METHODS: Drawing on examples from HTA and other relevant literature, a framework is proposed to outline: when to take explicit account of future events for the purposes of reimbursement decisions, how different future events may affect value-of-information analysis, and what modelling methods are likely to be useful when incorporating UFEs. Taking the example of a decision model seeking to estimate the cost-effectiveness of an early interventional strategy for patients with non-ST-elevation acute coronary syndrome, a future price change is simulated and the framework is applied. RESULTS: UFEs are shown to impact ‘accept or reject’ reimbursement decisions only in very specific circumstances whereas their role in incuring irrecoverable costs, their role in value-of-information analysis and what modelling methods are likely to be useful when incorporating UFEs. CONCLUSIONS: UFEs will only impact expected costs-effectiveness under specific and rare circumstances. When it is appropriate to include a future event in the model, the uncertainty surrounding its likelihood, timing and magnitude should also be quantified.

PM97 TECHNICAL ERRORS IN COST-EFFECTIVENESS MODELS: EVIDENCE FROM THE SINGLE TECHNOLOGY APPRAISAL PROGRAMME IN ENGLAND AND WALES
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OBJECTIVES: Modelling for cost-effectiveness studies often relies upon the use of spreadsheets. However, research has shown that approximately 90% of spreadsheet models contain technical errors. Furthermore, cost-effectiveness models rely on accurate transcription between many data sources, which increases the risk of errors further. The objective of this analysis was to ascertain the incidence of reported technical errors in cost-effectiveness models submitted to NICE as part of the Single Technology Assessment (STA) programme, which are subject to monitoring and assessment by Evidence Review Groups (ERGs). METHODS: NICE guidance documents were searched for a wide range of technical error types using the HTAinsite assessment by Evidence Review Groups (ERGs). Results were searched for a wide range of technical error types using the HTAinsite assessment by Evidence Review Groups (ERGs).
RESULTS: Of the 102 completed STA Guidance documents searched, 39 appraisals met the inclusion criteria. The usability of guidelines and manuals for modelling could be improved by addressing the issue of appropriate evidence sources in a more structured and comprehensive format.

PM98 THERAPY ESCALATION THRESHOLDS AND THE POTENTIAL FOR BIASED COST EFFECTIVENESS ANALYSIS WHEN FALLING TO SAMPLE BASELINE HBAlC IN TYPE 1 DIABETES
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OBJECTIVES: For type 2 diabetes mellitus (T2DM), patients inevitably require therapy escalation or intensification. In health economic analyses, sampling input parameters is routinely undertaken for probabilistic analysis but non-sampled analysis (mean values) is still commonplace. The objective of this study was to assess how sampling baseline HBAlC in combination with therapy escalation thresholds influences predicted costs and quality adjusted life expectancy (QALY) in T2DM economic evaluations.
METHODS: This study used the U.S. Core Diabetes Model (CDM), a validated and established diabetes model, to evaluate the cost effectiveness of metformin + sulphonylurea (M+S) compared to metformin + DPP-4 (M+D). Baseline HBAlC was set to 8.0% (non-sampled scenario) with standard error of 0.8% for data on diabetes therapy. DMC data was sourced from a published systematic review, HBAlC and BMI changes of 0.8% and 0.19kg/m² (M+D) and -0.79% and 0.70kg/m² (M+S) respectively were applied. Insulin rescue therapy was applied to both arms at HBAlC thresholds of 6.5%, 7.0% and 7.5%. The model was run over a lifetime and costs (US$) and benefits were discounted at 3.5%. RESULTS: Total incremental costs were $7,667, $9,571 and $11,644 for M+D versus M+S using sampled baseline HBAlC for therapy escalation thresholds of 6.5%, 7.0% and 7.5% respectively. Error propagation affected both arms at HBAlC thresholds of 6.5%, 7.0% and 7.5% respectively. A similar pattern was observed for QALE, in which incremental QALE gains were 85%, 42% and 1% lower with non-sampled compared to sampled baseline HBAlC for escalation thresholds of 6.5%, 7.0% and 7.5% respectively. CONCLUSIONS: The importance of probabilistic analysis within cost effectiveness models extends beyond quantifying the effects of parameter uncertainty. When treatment decision rules are dependent on patient attributes that are subject to variability (such as treatment eligibility), it is important to accommodate this within the model can significantly bias predicted costs and QALE.

PM99 MARKOV MODELS IN NON METASTATIC PROSTATE CANCER – AVAILABILITY OF INPUT FACTORS AND STRUCTURAL UNCERTAINTY
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OBJECTIVES: This study aims at reviewing structural differences in Markov Models comparing different treatment strategies for Non-Metastatic Prostate Cancer related to side effects, health state transitions and parameterization of the model. METHODS: There is an abundant literature on Prostate Cancer. There are however few well performed RCT’s comparing different options for management for non-metastatic disease. We performed a systematic assessment of the literature for localised prostate cancer in decision analytic models and economic evaluation. [2] The literature review in this paper focuses on the limited number of papers on economic evaluation related to the treatment of prostate cancer comparing Markov Models. The evaluation was based on selected items from "Consolidated Health Economic Evaluation Reporting Standards (CHEERS)". RESULTS: In NMPca there are two Markov models ranging from two to five health states [9]. The choice of model originates from the underlying assumptions, the aim/scope of the study or the availability of data to feed into the model. The insufficient clinical evidence and few preference based studies of health state values where the most influential factors in structuring the models. Little attention was given to structural differences in the analysis and the discussions in the available papers. Structural uncertainty is viewed as external to the model and difficult to evaluate unless the structural choices are made transparent. CONCLUSIONS: Models in NMPca differ in complexity and structure. The ability to evaluate the use of different models is highly dependent on transparency in the different building blocks. The CHEERS framework provided a useful tool in the evaluation input factors and the different Markov Model structures.

PM100 BAYESIAN EVIDENCE SYNTHESIS OF SAFETY DATA: A ROBUST OPTION?
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OBJECTIVES: The Structure of HTA Markov Models often includes stochastic Markov Models. The evaluation was based on selected items from "Consolidated Health Economic Evaluation Reporting Standards (CHEERS)". 
METHODS: In our analysis we focus on the half-cycle correction, and any other methods including in the half-cycle correction. We also considered the impact of parameter uncertainty. The application of probabilistic analysis within cost effectiveness models extends beyond quantifying the effects of parameter uncertainty. Our analysis on HTA Markov Models for localised prostate cancer showed that there is an interest in the modelling of prostate cancer in decision analytic models and economic evaluation. [2] The literature review in this paper focuses on the limited number of papers on economic evaluation related to the treatment of prostate cancer. The evaluation was based on selected items from "Consolidated Health Economic Evaluation Reporting Standards (CHEERS)". 
RESULTS: In NMPca there are two Markov models ranging from two to five health states [9]. The choice of model originates from the underlying assumptions, the aim/scope of the study or the availability of data to feed into the model. The insufficient clinical evidence and few preference based studies of health state values were the most influential factors in structuring the models. Little attention was given to structural differences in the analysis and the discussions in the available papers. Structural uncertainty is viewed as external to the model and difficult to evaluate unless the structural choices are made transparent. CONCLUSIONS: The evidence synthesis can leverage all available information in a robust manner for both direct and indirect comparisons, with fair quantification of uncertainty. Specific methods for localised prostate cancer are shown to impact ‘accept or reject’ reimbursement decisions only in very specific circumstances whereas their role in incuring irrecoverable costs, their role in value-of-information analysis and what modelling methods are likely to be useful when incorporating UFEs. CONCLUSIONS: UFEs will only impact expected costs-effectiveness under specific and rare circumstances. When it is appropriate to include a future event in the model, the uncertainty surrounding its likelihood, timing and magnitude should also be quantified.

PM101 THE ROLE OF HALF-CYCLE CORRECTION IN THE MODELS USED FOR HEALTH TECHNOLOGY ASSESSMENT
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OBJECTIVES: The Structure of HTA Markov Models often includes stochastic Markov Models. The evaluation was based on selected items from "Consolidated Health Economic Evaluation Reporting Standards (CHEERS)". 
RESULTS: In NMPca there are two Markov models ranging from two to five health states [9]. The choice of model originates from the underlying assumptions, the aim/scope of the study or the availability of data to feed into the model. The insufficient clinical evidence and few preference based studies of health state values were the most influential factors in structuring the models. Little attention was given to structural differences in the analysis and the discussions in the available papers. Structural uncertainty is viewed as external to the model and difficult to evaluate unless the structural choices are made transparent. CONCLUSIONS: Models in NMPca differ in complexity and structure. The ability to evaluate the use of different models is highly dependent on transparency in the different building blocks. The CHEERS framework provided a useful tool in the evaluation input factors and the different Markov Model structures.