CONCLUSIONS: In a studied period, NICE published more positive recommendations for cancer drug technologies than AHTAPoL. The contradictory recommendations prevailed in the group of drug technologies appraised by both jurisdictions.

PCN156 KNOWLEDGE TRANSFER REGARDING CANCER SCREENING BASED ON INTERESTS OF DIFFERENT TARGET POPULATIONS
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OBJECTIVES: To develop targeted leaflets regarding cancer screening guidelines that take account the knowledge required by different target groups. METHODS: Before developing leaflets, public interest data regarding cancer screening were collected by the so-called KJ method (developed for field work in Japan). The KJ method includes two steps: label making of information corresponded to specific issues and grouping similar concepts. Contents of leaflets were edited based on the results of the KJ methods but changed in the final version according to discussions at a committee meeting involving public members. We compared the results of the KJ method and contents of the final version of the leaflets for the following groups: cervical cancer screening targeted at 20-year-old subjects (first group), cervical cancer screening targeted at subjects aged 30 years and older (second group), and colorectal cancer screening targeted at subjects aged 40 years and older (third group). RESULTS: Common interests among the three groups included targeting cancer and screening methods. Although the KJ method revealed that the first group expected broad information, in the final version of the leaflet, only basic information regarding participation in cancer screening programs remained. The final versions in group 2 and 3 almost corresponded to the first interest of an actual plan to participate in a screening program including details of the screening methods as well as physical and financial burden expected. Although information regarding the harm of cancer screening was initially included according to the results of the KJ methods in the second and third groups, there was no expectation in the first group. CONCLUSIONS: A targeted leaflet is a powerful tool to share knowledge regarding cancer screening. We must understand the expectations of different target groups and prepare appropriate leaflets that support the decision to take part in cancer screening.

PCN157 REASONS FOR DISCONTINUATION OF HORMONAL THERAPY IN BREAST CANCER PATIENTS ACROSS FIVE EUROPEAN COUNTRIES
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OBJECTIVES: Recent evidence suggests that many breast cancer patients discontinue their hormonal therapy treatment regimen before the end of the recommended treatment period, but reasons for treatment discontinuation are not well understood. Therefore, we examined reasons for hormonal therapy discontinuation in a European treatment cohort of female breast cancer (BC) patients. METHODS: Female patients ages 21+ with a diagnosis of BC between January 2006 and December 2008 were identified within the Oncology Analyzer, which provides descriptive, retrospective, cancer-treatment data from 14 countries including France, Germany, Italy, Spain, and the United Kingdom and encompasses over 60,000 de-identified BC patient records from a physician panel of nearly 800 doctors in the EU5. Patients within the EU5 with early-stage BC (stages I-IIa) who received hormonal therapy and for whom their physician provided a reason for discontinuing first course of therapy were included in the study. Patients enrolled in clinical trials were excluded. Reasons for discontinuation of therapy include course completion, progression of disease, stabilization of disease, adverse events, and patient choice. RESULTS: 10,949 patients were identified. Approximately 57.2% discontinued their first course of hormonal therapy prior to course completion. Of these patients, the top reasons for early discontinuation included progression of the disease (59.5%), adverse events (21.7%) and patient choice (10.1%). Mean duration of therapy for all patients was 95.4 months (range 45.5–152.1). Time to discontinuation was significantly shorter for those who quit due to AEs than those who quit by choice (36.2 months vs. 57.8 months, P < 0.0001). Of patients that discontinued due to AEs, hot flushes (46.1%), pain (19.1%), and nausea and vomiting (14.0%) were the most commonly reported events. CONCLUSIONS: This analysis in a real world setting provides new insight into reasons for early discontinuation of hormonal therapy in the EU5.

PCN158 TREATMENT DECISION CHANGE WITH 21-GENE RECURRENCE SCORE IN PATIENTS WITH EARLY STAGE BREAST CANCER (ESBC): A META-ANALYSIS
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OBJECTIVES: The 21-gene Recurrence Score® (RS) is a validated assay for estimating a woman's recurrence risk and chemotherapy benefit after the diagnosis of estrogen receptor positive (ER+), ESBC. We conducted a meta-analysis of RSs influence on treatment recommendations/decisions in lymph node negative (LN-) disease. METHODS: Literature was abstracted on cohort studies that reported the change in the recommendation or actual use of adjuvant chemotherapy (CT) for patients with ER+, LN-, ESBC before and after the RS. Outcomes evaluated were: treatment decision change from 1) CT plus hormone therapy (HT) to HT-only or 2) HT-only to CT plus HT. Actual treatment change was used when available. Reductions in the relative and absolute CT use associated with the RS were computed with Review Manager (5.3.1.18) and Cochrane Collaboration’s software in Comprehensive Treatment Information System (2008). The relative change in CT was calculated as a before-to-after ratio of proportion of patients recommended or received CT, weighted by study sample size. RESULTS: Seven published studies (n = 912 patients) were eligible for the meta-analysis. One was a prospective physician survey; six were retrospective chart reviews, a total of 569 (62%) patients were recommended CT prior to RS testing. After RS testing, 272 (30%) patients were recommended or received CT. In six of seven studies (n = 652 patients) that reported a treatment change, 212 (32%) patients switched from HT before RS to HT-only after RS. The absolute reduction in CT before and after RS testing was 30% (95% CI [39%–21%]). The relative reduction in CT before and after RS was 49% (95% CI [42%, 58%]). Estimates varied little when analysis omitted a single study. Limitations include heterogeneity in study designs. CONCLUSIONS: The meta-analysis shows consistent overall reduction in CT with the use of RS.

PCN160 THE ROLE OF PATIENT SELECTION CRITERIA IN IDENTIFYING OVARIAN CANCER PATIENTS
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BACKGROUND: Retrospective claims databases are commonly used in outcomes research. Since physician charts are rarely available to confirm diagnoses, care must be taken when choosing patient populations. OBJECTIVES: To show how patient selection criteria affects sample size and chemotherapy treatment rates using an ovarian cancer (OC) population. METHODS: Patients were initially selected if they met the following inclusion criteria: at least one diagnosis of OC (ICD-9-CM codes 183.0x) between 3/1/2002 and 12/31/2006, first OC diagnosis date treated index, 6 months pre-index and 12 months post-index eligibility, and no OC diagnosis in the 6 months pre-index. Additional criteria were imposed to further refine the sample and assess variations in chemotherapy treatment rates. First, patients were required to have at least two diagnoses of OC at least 14 days apart. Next, patients were required to have both OC diagnoses on a record labeled as medical, surgical, facility, or pharmacy (i.e., ancillary records were excluded). RESULTS: A total of 37,172 patients had at least one diagnosis of OC. Of those, 16,418 had 6 months pre-index and 12 months post-index eligibility with no pre-index OC diagnoses. In this population, 26% of patients received chemotherapy. When patients were also required to have one additional OC diagnosis at least 14 days from index, the sample size dropped to 7431 patients, of whom 47% received chemotherapy. When OC diagnoses on ancillary records were excluded, a total of 6233 patients were identified, of which 52% received chemotherapeutic agents. CONCLUSIONS: Selection criteria affect the appropriateness of the sample and thus the study results.

PCN161 DECISION-ANALYTIC MODELING IN CHRONIC MYELOID LEUKEMIA—A SYSTEMATIC OVERVIEW
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OBJECTIVES: To provide an overview on published decision-analytic models evaluating various treatment strategies in chronic myeloid leukemia (CML). We sought to describe and analyze the structural and methodological approaches used and to identify recommendations for future CML models. METHODS: We performed a systematic literature review in electronic databases (Medline/PreMedline, EconLit, EMBASE, and others) to identify published studies evaluating CML treatment strategies using mathematical decision models. The models were required to compare different treatment strategies and to comprise relevant clinical health outcomes such as life-years gained or QALYs over a defined time horizon and population. We used standardized forms for data extraction, description of study design, methodological framework, and data sources. RESULTS: We identified 14 different decision-analytic modeling studies and to among OC patients varied significantly by the sample selection criteria used. Care must be taken to identify the correct patient sample in any retrospective database analysis since selection criteria affect the appropriateness of the sample, and thus the study results.

CANCER – Conceptual Papers and Research on Methods
EXTRAPOLATION IN TRIAL-BASED COST-EFFECTIVENESS MODELING: IN SEARCH OF A STANDARD

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BACKGROUND: Extrapolation is often a key element in health economic modeling. Although any model should use empirical data if possible, the effects of treatments on long-term health outcomes are seldom observed within the follow-up time of a clinical study. Extrapolation over a lifetime horizon will generally be required in economic models where treatments have different cumulative survival at the end of the clinical trial. Typically, a within-trial analysis of costs and health effects, in which outcomes are truncated at the conclusion of the trial, will be overly conservative.

OBJECTIVES: The purpose of this study is to compare different methods of extrapolation in the context of examples concerning oncology, although the principles may apply across all therapeutic areas. METHODS: There is a set of standard assumptions regarding extrapolation of survival data from clinical studies, ranging from very cautious (“stop-and drop”) to very optimistic (“continued benefit”). The impact of different assumptions regarding extrapolation is explored, and the implications are discussed. CONCLUSIONS: The choice of extrapolation method has significant impacts on overall clinical effects, costs, and cost-effectiveness. Based on our findings and supporting examples, we propose the following: 1) Analysts should perform and report results under a range of specific standard extrapolation assumptions to increase comparability across studies. 2) The choice of a basis approach in any particular study should be guided by knowledge about the biology of the indication under evaluation and the mechanism of action of the treatment. A case could be made for a reference case method of extrapolation, but we believe that sensitivity analysis across a standard set of possibilities is sufficient. Adherence to these modeling practices would contribute to increased transparency in modeling and hence potentially to a greater confidence among health-care decision-makers in the results from cost-effectiveness analyses building on modeling and extrapolation.

EXTENDING FIXED EFFECT MODELS TO CENSORED COST DATA

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OBJECTIVES: Challenges in analyzing cost data include addressing skewness in cost distributions, observed and unobserved heterogeneity across samples, and even more challenging complexities due to censoring. We combined generalized random effect models with inverse probability weighted (IPW) estimation techniques to address these challenges in a single model. METHODS: Generalized fixed effect models have been used with weights that are calculated as inverse due to probability being uncensored. The Gaussian family and log link function was chosen and we applied a test to see if possibly censoring bias exists. We also calculated the deviation from the consistent values of a standard ordinary least squares. RESULTS: A total of 4824 observations were used in the analysis. We obtained Medicare claim files for the 2 years following patients’ lung cancer diagnosis. Costs had high kurtosis and skewness. Moreover, 40% of the cases were censored, and therefore, their annual costs were not observed. The total cost of all care was $63,000 for the 2 years following a lung cancer diagnosis and $57,000 for incomplete cases. Results significantly diverged from the standard regression model (P < 0.000). CONCLUSIONS: This paper applied inverse probability weighted estimation and fixed effect panel data models to an inception cohort of patients newly diagnosed with lung cancer. Our findings suggest that standard regression models yield inconsistent estimators due to censoring bias. The IPW least square estimation method removes that bias.

THE ECONOMICS OF CHRONIC MYELOGENOUS LEUKEMIA: A COMPARISON OF MODELING APPROACHES

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OBJECTIVES: Chronic myelogenous leukemia (CML) is a progressive disease which arises from damage to the DNA of a stem cell in the bone marrow. This results in the uncontrolled growth of white blood cells which, in turn, can lead to severe impairment of an individual’s functioning. The National Institute for Health and Clinical Excellence (NICE) models the costs and benefits of medicines. The structure of these models is not prespecified. All wide variations are often observed, both in the model’s choice of input parameters and in the structure of the modeling approach. While there is no such thing as a “correct” model, it is important that different models are compared and criticized in order to identify any particular strengths and weaknesses of differing approaches. METHODS: A review was undertaken, identifying existing published models for CML. The data sources and choice of inputs were compared across each model and presented in a comparative table. Furthermore, the different approaches to model structure were examined, and attempts were made to explore the consequences of each approach on the models, costs, effectiveness, and cost-effectiveness findings. RESULTS: The results across trials to modeling CML vary significantly between different studies. While different data sources are utilized in each model, this can usually be explained by emerging data which were not available to other researchers. However, the overall approach to modeling the disease varied considerably across each study. Model structures and assumptions for long-term outcomes were key drivers of the cost-effectiveness results in each model, but were often based on contrasting and contradicting approaches. CONCLUSIONS: This review has highlighted significant variant in approaches to modelling CML. It is recommended that long-term follow-up from previous local trial models be used to predict the likely outcomes associated with shorter-term outcomes, such as treatment response.