overall survival (OS) for treatment switching. The aim is to evaluate how NICE responds to these methods, their critique and recommendations for future submissions. ***Methods:*** This NICE HTA review included all oncology submissions that were completed as of December 2001. All reports published on the NICE website on TAs including naïve and more complex methodologies that adjust for treatment switch such as inverse probability of censoring weights (IPCW), rank-preserving structural failure time (RPSFT) models, iterative parametric estimation (IPE) and the 2-stage method were included. The included extraction items were: methodology used, acceptance by NICE of the adjusted outcomes, and overall criticism/recommendations. ***Results:*** Out of 218 submissions, 38 were included in this review. Most commonly, more than one method was used. The RPSFT and IPCW methods were combined in 12 submissions. Among all submissions, the most common method was RPSFT (32 submissions) followed by the IPCW (15 submissions) and the 2-stage method (11 submissions). IPE and naïve methods were presented in six and five submissions, respectively. In twelve appraisals, only a RPSFT model was presented. NICE considered RPSFT a preferred methodology if the common treatment effect assumption was met. Otherwise, the 2-stage method was recognized as a better fit (5 submissions). IPCW was considered unsuitable when the percentage of patients switching treatments was high. Using more than one adjustment method was recommended. However, it appears that the choice of adjustment method(s) used or their number was not crucial for the reimbursement decisions. ***Conclusions:*** Treatment switching adjustment methods appear to be well accepted by NICE. Currently, NICE recommends for the future submissions to report treatment switching methodologies in a transparent way and to explore multiple adjustment methods.

PCN373
RECENT COST PER QALY TRENDS OF NON-HAEMATOLOGICAL CANCERS ASSESSMENT AT NICE

Mondal S,[1] Saini M,[1] Mathur V,[1] Bergemann R,[2] Sharma S[1]
[1]*Evalueserve, Gurugram, HR, India,* [2]*Evalueserve, London, UK*

Objectives: Oncology is a major focus area for new drug development. In the UK, use of the drugs within the NHS is dependent up on the recommendation status from NICE. This study aims to analyse the trend in the last 5 years based on the incremental cost effectiveness ratios (ICERs) in terms of cost per QALY across submissions made to NICE. ***Methods:*** A comprehensive search was conducted using NICE technology appraisals for submissions on cancers in the last five years and submissions on non-haematological cancers were shortlisted. Indications with 10 or more submissions were considered for the analysis. Base case ICER and end of life criteria were used for the analysis. ***Results:*** Eighteen different types of non-haematological cancers were identified with 10 or more submissions for non-small cell lung cancer (NSCLC) (18/2), melanoma (12/1), and breast cancer (8/2) (recommended/not recommended). ICER for recommended submissions ranged from £1,458 to £104,069 for melanoma, £17,297 to £167,236 for breast cancer and £23,424 to £103,589 per QALY gained for NSCLC respectively. ICER for not recommended submissions by NICE ranged from £22,498 to £36,244 for breast cancer and £1,106,497 to £57,725 for NSCLC. For melanoma, the single not recommended drug was compared to two comparators and the ICER ranged from £209,942 to £150,514 per QALY gained. Significant survival data (End-of-life criterion) was the main reason for approval of drugs with significantly high ICER across the three non-haematological cancers. Other factors like disease severity, mutation status, innovative technology and epidemiology of the disease also play an important role. ***Conclusions:*** Cost per QALY threshold is an important parameter considered by NICE during their assessment. ICERs significantly higher than the standard £30,000 per QALY gained are accepted in case of significant survival benefits in end of life conditions.

PCN374
BETTER LATE THAN NEVER: THE DYNAMICS OF NICE DECISION-MAKING UNDER THE NEW MODEL OF THE CDF

Hall A,[1] Liu LW,[2] Macaulay R[3]
[1]*Parexel International, London, UK,* [2]*Parexel International, London, LON, UK,* [3]*Parexel International, London, HRT, UK*

Objectives: In 2016, the Cancer Drugs Fund (CDF) became a temporary reimbursement fund collecting observational data for subsequent National Institute for Health and Care Excellence (NICE) appraisals. The new appraisal guidance stipulated that data collection within the CDF should be as short as possible: normally up to two years but potentially longer depending on the issues of uncertainty. This research evaluates how this stipulation has been implemented. ***Methods:*** Publicly-available Managed Access Agreements (MAAs) entered into between NHS England and manufacturers within the CDF as of 31/05/19 were identified and key data extracted. ***Results:*** 29 drugs were identified that were recommended for use within the CDF. The maximum data collection timeframe ranged from 5-months up to 62-months. The majority (15/29 [54%]) were issued with data collection periods greater than two years. Two drugs have subsequently been reassessed and both are now available through routine commissioning (Pembrolizumab:NSCLC, Brentuximab vedotin:Hodgkin lymphoma). Although maximum data collection periods of 6-months (Pembrolizumab:NSCLC) and 5-months (Brentuximab vedotin:Hodgkin lymphoma) were stipulated upon recommendation for use within the CDF, NICE delayed publishing technology appraisal guidance until 14-months and 13-months, respectively. Another two drugs still in the CDF (Osimertinib:NSCLC, Pembrolizumab:UC) have also exceeded the pre-specified timeframe for CDF data collection. ***Conclusions:*** Analysis of how the new guidance for exiting the CDF has translated into practice indicates a degree of flexibility; as the majority of drugs have been given data collection periods over two years and as of May 2019, four drugs have exceeded their prespecified data collection window. As such, NHS England are seemingly adopting an event-driven approach; open to prolonging MAAs until sufficient data are collected to address key clinical uncertainties. As a number of drugs are due to exit the scheme imminently, future research can identify whether this emerging trend continues and indeed whether this is a sustainable model going forward.

PCN375
WHEN EARLY MODELS MAY BE TOO EARLY - PREDICTING SURVIVAL FROM INTERIM ANALYSES

Ayers D,[1] Cope S[2]
[1]*Precision XTract, Vancouver, BC, Canada,* [2]*Precision Xtract, Vancouver, BC, Canada*

Objectives: Health technology assessment (HTA) agencies are increasingly evaluating new interventions based on interim analyses of single-arm clinical trials in tandem with accelerated approvals. However, early models that extrapolate survival before the trial is completed may produce misleading results, particularly where the sample size is small. We sought to highlight the implications of early modeling on basis of limited follow-up and propose alternative options to explore the uncertainty and improve predicted survival. ***Methods:*** Published data was based on a case study of pediatric and young adult acute lymphoblastic leukemia regarding long-term survival for a tisagenlecleucel, chimeric antigen receptor T-cell, where evidence from the phase II ELIANA trial. We examined changes in estimated survival based on the data available at various time points in the trial period and plotted the predicted survival based on each data cut using alternative parametric models. We used the information from early analyses to estimate the event rate, along with assumptions about the censoring rate, to predict the KM curve based on full follow-up. Additionally, we used simulations to identify the influence of limiting data to when a reasonable proportion of the original sample were at risk. ***Results:*** Expected survival differed substantially depending the on the data cut. When the tail of the KM curve was restricted results were less sensitive to the amount of follow-up. Upper and lower bounds for the KM curve were obtained, as well as a predicted 'full follow-up' curve. Estimates of the variability of censoring and event times were propagated to produce a credible interval for the predicted curve. ***Conclusions:*** It is important to evaluate the stability of KM curves in HTA evaluations of new interventions with limited follow-up, which may benefit from scenarios assessing restricted and/or predicted KM curves that are less likely to be influenced by single events.

PCN376
ACCESS TO ONCOLOGY THERAPIES IN RUSSIA AND VISEGRAD GROUP COUNTRIES

Subbotina E,[1] Walker W,[2] Bustamante MMD[2]
[1]*CBPartners, London, LON, UK,* [2]*CBPartners, New York, NY, USA*

To understand the decision-making drivers for oncology therapy reimbursement in Russia and Visegrád markets (the Czech Republic, Poland, Hungary and Slovakia). The research reviewed publicly available reimbursement lists and HTA reports for 49 high-cost drugs approved by the EMA across a variety of oncology indications in five Central and Eastern European markets. Almost a quarter of high-cost oncology products investigated (12 of 49) are not reimbursed in any of the markets analysed. Most of the non-reimbursed therapies represent either orphan (6 of 12) or recently approved products (6 of 12), demonstrating the general lack of orphan-specific policies in the region, as well as delayed access to innovative therapies. One fifth of high-cost oncology therapies (11 of 49) are exclusively reimbursed in a single analysed market; of these products, most are reimbursed in the Czech Republic as it represents the quickest time-to-access across the five markets. Relative to Visegrád markets, Russia stands at the top in terms of the number of molecules included in the federal Essential Drug List. Only about 10% of high-cost oncology therapies (6 of 49) are reimbursed in each country, all of which were approved by the EMA for their first indication from 2013-2015 and have already achieved reimbursement in major HTA markets, such as Germany and France. The research suggests that access to high-cost, innovative oncology therapies in Russia and Visegrád markets is often characterised by delayed reimbursement decisions and more restricted use of oncology therapies compared to Western European markets. Despite the reliance on cost-effectiveness assessment to help determine reimbursement in Visegrád markets, the HTA process is often hindered by discretionary political forces at play, as well as factors such as HTA outcomes in other markets and the extent of budget impact; these factors align with the key decision drivers for pharmaceutical access in Russia.

PCN377
WHERE DO WE GO WITH WHOLE GENOME SEQUENCING IN ONCOLOGY? USING SCENARIO DRAFTING TO EXPLORE FUTURE DEVELOPMENTS

van de Ven M,[1] Simons M,[2] van Harten WH,[3] Retèl VP,[3] Koffijberg E,[1] Joore M,[2] IJzerman M[4]
[1]*University of Twente, Enschede, Netherlands,* [2]*Maastricht University Medical Centre, Maastricht, Netherlands,* [3]*Netherlands Cancer Institute, Amsterdam, Netherlands,* [4]*University of Melbourne, Melbourne, VIC, Australia*

Objectives: Whole genome sequencing (WGS) is a promising but complex technology. WGS is not yet widely used as a clinical diagnostic in oncology due to several barriers, such as the required infrastructure and expertise, costs, and unknown clinical utility. This study aimed to investigate possible future developments facilitating or impeding the implementation and adoption of WGS in this context. Exploring WGS development scenarios can inform strategic choices by assessing their likelihood of occurring and their consequences for the healthcare system. ***Methods:*** Scenario drafting is an iterative process. First, a literature review was performed on potential barriers and facilitators related to the implementation of disruptive health technologies and WGS in particular. Second, the knowledge and opinions of national and international experts were used to prioritize these barriers and facilitators. Third, several of barriers or facilitators were combined into a set of coherent scenarios that each describe a possible future development. Fourth, these scenarios were validated internally and checked for plausibility by our research consortium. Fifth, expert opinion was elicited from a group of international experts. They were asked with which likelihood each scenario would take place in the next five years. Sixth, the data were pooled to create probabilities distributions for the likelihood of each scenario. ***Results:*** Five domains were identified that are relevant to the implementation of WGS: technical, market access, clinical utility, and evidence generation, social, and reimbursement. Preliminary results indicate that experts consider the price of WGS, its clinical utility, and the turnaround time of WGS important aspects that can affect the implementation of WGS. Scenarios that describe a future development related to these aspects were created and probabilities were elicited. ***Conclusions:*** Possible future developments have been assessed on likelihood of occurring and these assessments can be used in strategic decision-making regarding the the implementation of WGS.

PCN378
PHARMACOECONOMIC ANALYSIS OF ATEZOLIZUMAB PLUS NAB-PACLITAXEL IN THE TREATMENT OF TRIPLE-NEGATIVE BREAST CANCER

Kolbin A,[1] Velum I,[2] Balykina Y,[3] Proskurin M[4]
[1]*First Pavlov State Medical University of St. Petersburg, Saint-Petersburg, Russia,* [2]*First Pavlov State Medical University of St. Petersburg, Saint Petersburg, Russian Federation,* [3]*Saint Petersburg State University, Saint Petersburg, SPE, Russia,* [4]*Saint Petersburg State University, Moscow, Russia*

Objectives: Breast cancer with a triple negative phenotype (TNBC) is aggressive form of the disease. The survival at stage 4 is 1 year at most. The goal of the study was assessment of a new option for inoperable TNBC (presence of PD-L1 ≥1%): atezolizumab in combination with nab-paclitaxel. ***Methods:*** A decision analysis model was used followed by Markov modeling. The cost-effectiveness analysis (CEA) with incremental cost-effectiveness ratio (ICER) calculation was performed. The combination of atezolizumab+nab-paclitaxel and nab-paclitaxel monotherapy regimens were evaluated. Overall survival (OS) was taken as an effectiveness criterion. Budget impact analysis (BIA) was performed with a one-year and three-year perspective in order to assess the difference in direct costs between the current therapy practice (excluding the use of the combination under consideration) and the expected practice (taking into account the use of the combination). ***Results:*** TNBC therapy has a high cost in both combination therapy and monotherapy regimens. The use of atezolizumab plus nab-paclitaxel option increased the median OS from 15.5 to 25 months. At the same time, the total costs of using the combined regimen were €124,987 for two years, which is 2.6 times more expensive than nab-paclitaxel monotherapy. ICER for the combined regimen amounted to €8,155, which is significantly less than society willingness-to-pay threshold that equals €27,341 (triple GDP per capita). In addition, ICER value for atazodizumab+nab-paclitaxel is significantly lower than the incremental indicators for alternate therapeutic options used for other curable forms of breast cancer, e.g., trastuzumab emtansine in comparison with lapatinib+capecitabine (€272,669 for the LYG, and €329 475 for QALYs). BIA demonstrated the absence of significant impact on the level of costs for providing patients with breast cancer in general. ***Conclusions:*** The use of atezolizumab plus nab-paclitaxel for the TNBC treatment is an economically feasible option for patients with a poor prognosis.

PCN379
HTA ASSESSMENTS OF METASTATIC UROTHELIAL CARCINOMA TREATMENT IN EU COUNTRIES

Benisheva T,[1] Borissov B,[2] Sidzhimova D,[3] Atanasova R[4]
[1]*Faculty of Public Health, Medical University of Sofia, Sofia, Bulgaria,* [2]*Prescriptia EOOD, Sofia, Bulgaria,* [3]*Medical University-Sofia, Sofia, Bulgaria,* [4]*Bulgarian Association for Drug Information, Sofia, Bulgaria*

Objectives: Immunotherapy agents (atezolizumab and pembrolizumab) targeting programmed cell death protein-1 (PD-1) and programmed death ligand-1 (PD-L1) for the treatment of metastatic urothelial carcinomas (UC) was approved by the EC in 2018. Following platinum-based chemotherapy, atezolizumab and pembrolizumab have clinical efficacy in patients with metastatic UC with disease progression. These drugs are considered as second-line therapy over single-agent chemotherapy for patients who fail or progress after platinum-based treatment. ***Methods:*** Atezolizumab and pembrolizumab for UC were subject to HTA evaluation, in several EU countries, Bulgaria, , France, Germany, Ireland , Scotland and UK, where clinical data, safety profile and reimbursement parameters were reviewed. ***Results:*** In 4 (66%) countries, except Scotland, pembrolizumab has a positive HTA assessment. Scotland - SMC does not recommend it for reimbursement because no robust clinical data had been presented. The NCPE in Ireland recommends that pembrolizumab could be considered for UC reimbursement if cost-effectiveness is improved to existing treatments. Regarding atezolizumab, two countries (33%) Bulgaria and UK recommend it for reimbursement, respectively Positive Drug List and Cancer Drugs Fund. GBA in Germany required cost/benefit dossier for both UC products in January 2019 and obviously the process is still under evaluation. There is yet no HTA assessment published for UC indication of atezolizumab at HAS. Two countries (33%) (Ireland -NCPE and Scotland - SMC) have not considered atezolizumab for reimbursement. ***Conclusions:*** The results for atezolizumab with various HTA authorities in the surveyed EU countries differ due to absence of cost effectiveness or uncertainty in relative effectiveness. For pembrolizumab, HAC and NICE show clinical benefit and minor clinical added value, superiority over chemotherapy and overall survival of 2.9 months respectively.

PCN380
A TARGETED REVIEW EVALUATING UNCERTAINTY IN SINGLE TECHNOLOGY APPRAISAL SUBMISSIONS FOR TREATMENTS APPROVED FOR USE SINCE THE INTRODUCTION OF THE 'NEW' CANCER DRUGS FUND

Critchlow S,[1] **Lilley C,**[2] Gladwell D,[2] Akehurst RL,[2] Palmer S,[3] Trevor N,[4] Adedokun L,[4] Lee JM[5]
[1]*BresMed, Sheffield, UK,* [2]*BresMed Health Solutions, Sheffield, UK,* [3]*University of York, Heslington, York, UK,* [4]*Janssen, High Wycombe, UK,* [5]*Janssen UK, High Wycombe, BKM, Great Britain*

Objectives: This research identified treatments recommended for use within the Cancer Drugs Fund (CDF), assessed trends in decision making and sought to better understand the use of the CDF as an option for decision makers in the presence of uncertainty. ***Methods:*** A targeted literature review was conducted to identify single technology appraisals (STAs) where the treatment under evaluation was recommended for use within the CDF. Data on the key elements of uncertainty described during evaluation were extracted and analysed to observe trends that emerged from the STAs and the data collection arrangements (DCAs) implemented. ***Results:*** The review identified 28 STAs conducted between June 2016 and May 2019 where the treatment evaluated was recommended for use within the CDF. Of these, only two have been reappraised following submission of new evidence. In all cases, overall survival (OS) was noted as a primary source of uncertainty, and 27/28 STAs had corresponding DCAs targeting OS as a primary outcome measure. The National Institute for Health and Care Excellence committees noted the submission of single-arm trial evidence as a key source of uncertainty in 13 appraisals; yet only three DCAs noted that new comparator data would be collected either via a new head-to-head study or using the Systemic Anti-Cancer Therapy dataset. Uncertainty in health-related quality of life (HRQL) data were considered a driver of uncertainty in 14 appraisals; however, further data on HRQL was only noted in four DCAs. ***Conclusions:*** While the reasons for recommending a treatment for use on the CDF are relatively consistent, there can be discordance between these uncertainties and the data targeted for collection. There remain important questions regarding the extent to which the DCAs will resolve the uncertainties raised, which in many cases will not be known until the point of reappraisal and assessment of the new evidence.

PCN381
KEY FACTORS FOR THE CONSIDERATION OF QUALITY OF LIFE DATA IN AMNOG BENEFIT ASSESSMENTS

Billig S,[1] Baigger A,[2] Claes AK,[2] Freese L,[2] Kulp W[2]
[1]*Xcenda GmbH, Hannover, NI, Germany,* [2]*Xcenda GmbH, Hannover, Germany*

Objectives: In recent years HrQoL has become an important component of benefit assessments within the AMNOG process. The aim of the study was to analyse the spectrum of instruments and statistical methods of HrQoL within submitted AMNOG dossiers as well as to identify key factors for the acceptance by G-BA/IQWiG. ***Methods:*** A database containing all AMNOG dossiers conclusively assessed by G-BA until the end of April 2019 was searched for multiple myeloma, melanoma and breast cancer drugs. Relevant dossiers were screened regarding the operationalization of HrQoL, methodological comments and the granted added benefit. ***Results:*** 42 dossiers (multiple myeloma n=13, melanoma n=24, breast cancer n=12) with 49 subpopulations were identified. For 45 subpopulations HrQoL was reported, applying nine different instruments. The validated cancer-specific questionnaire EORTC QLQ-C30 was most prevalent, supported by indication-specific questionnaires (e. g. EORTC QLQ-My20, FACT-M, EORTC QLQ-BR23). Predominantly, time-to-event responder analyses (33%) were performed and the mean difference between treatment arms (32%; e. g. MMRM analyses) was calculated. HrQoL data were methodologically accepted by G-BA in 28 subpopulations. An additional benefit based on HrQoL was granted in 11 cases. Major reasons for non-acceptance were formal issues (e. g. inappropriate comparator), limitations of the instrument (e. g. missing validation) or shortcomings regarding the analyses (e. g. statistical methodology). ***Conclusions:*** Crucial for the acceptance of HrQoL data in AMNOG benefit assessments is that generic and indication-specific instruments are validated. Another key factor is the choice of an adequate statistical approach, such as time-to-event responder analyses. In case a validated minimal important difference is not available, G-BA/