(66.0%) AF patients and 406 (66.1%) PF patients were classified in "better responders" subgroup. Lognormal and loglogistic distributions were the 2 distributions providing the best fit to the observed OS data, with very similar and good fit. Mean OS over 15-years using loglogistic distribution was 24.8 vs. 18.6 months for AF and PF, respectively. **CONCLUSIONS:** Post-hoc analysis suggested that the "better responders" subgroup of patients within VELOUR derived enhanced survival benefit with the AF combination. The results highlight the therapeutic benefit of AF in clinically relevant patient subpopulations.

PCN34
FACTORS DRIVING INEQUALITY IN PROSTATE CANCER SURVIVAL: A POPULATION BASED STUDY
Burns R[1], Sharp L[2], Sullivan FJ[3], Deady S[2], Drummond FJ[2], O'Neill C[1]
[1]NUI Galway, Galway, Ireland, [2]National Cancer Registry Ireland, Cork, Ireland, [3]Prostate Cancer Institutue, Galway, Ireland
OBJECTIVES: As cancer control strategies have become more successful, issues around survivorship have become increasingly important to researchers and policy makers. The aim of this study was to examine the role of a range of clinical and socio-demographic variables in explaining variations in survival after prostate cancer diagnosis, paying particular attention to the role of health care provider(s) (i.e. private vs. public) and socio-economic status. **METHODS:** Data were extracted from the National Cancer Registry Ireland, for patients diagnosed with prostate cancer from 1998-2009 (N=26,183). A series of multivariate Cox and logistic regression models were used to examine the role of health care provider and socio-economic status (area-based deprivation) on survival, controlling for age, stage, Gleason grade, marital status and region. Survival was based on all-cause mortality. **RESULTS:** Individuals who were treated in a private care setting were more likely to have survived than those who had not, when other factors were controlled for. A socio-economic gradient was evident with respect to marital status, region of residence, clinical stage and Gleason grade. The effect of socio-economic status was modified by health care provider, such that risk of death was higher in those of lower socio-economic status for men treated by public, but not private, providers. **CONCLUSIONS:** The role of health care provider (a proxy for voluntary private insurance) and socio-economic status in survival of men with prostate cancer may give rise to equity concerns regarding the operation of the Irish health care system and warrants further investigation.

PCN35
CONDITIONAL SURVIVAL (CS) PROBABILITIES FOR ADVANCED MELANOMA PATIENTS TREATED WITH IPILIMUMAB: MODEL BASED ANALYSIS
Lee D[1], Kotapati S[2], Gueron B[3], Bapat U[4], Batty AJ[1]
[1]BresMed, Sheffield, UK, [2]Bristol-Myers Squibb Pharmaceuticals, Wallingford, CT, USA, [3]Bristol-Myers Squibb, Rueil Malmaison, France, [4]Bristol-Myers Squibb Pharmaceuticals, Uxbridge, UK
OBJECTIVES: There are few treatments available for advanced melanoma and survival rates are low. While the incidence of the disease continues to rise, only two new treatments have come to the market recently: ipilimumab and vemurafenib. Ipilimumab is indicated in Europe for the treatment of advanced melanoma in adults who have received prior therapy. Ipilimumab has demonstrated a statistically significant improvement in overall survival in 2 Phase III RCTs. Prolonged survival (>2 years in some patients) has been shown (MDX020 & 024). **METHODS:** Data from the MDX010-20 trial, which was conducted in previously treated patients with a maximum follow up duration of 55 months, was used to develop an economic model for health technology assessment in England & Wales. This model has been used to predict the conditional survival (CS) of patients treated with ipilimumab (based on both ipilimumab containing arms) compared to gp100 – the active control. The model used patient level Kaplan–Meier data for the first 18 months, parametric curves fitted to the patient level data from 18 months to 5 years, and published AJCC registry data beyond 5 years. **RESULTS:** The curves were a good fit to the MDX010-20 trial data (MAE 0.003) and consistent with published Phase II data (which provides a longer time horizon). Given an ipilimumab patient has survived 2 years, the modelled probability of being alive at 5 years is 67% (49%,79%) (gp100: 15% [9%,21%]) and at 10 years is 54% (39%, 63%) (gp100: 2% [1%,3%]). **CONCLUSIONS:** The model shows that a substantial proportion of patients treated with ipilimumab surviving to 2 years are likely to have sustained survival benefits: more than 50% of ipilimumab patients surviving to 2 years are alive at 10 years, with 29% remaining alive at 20 years. This level of sustained survival is not shown by gp100 patients.

PCN36
ESTIMATING AND MODELING LONG TERM SURVIVAL IN LUNG CANCER USING MIXTURE PARAMETRIC MODELS
Sánchez L[1], Luaces P[1], Viada C[1], Galan Y[2], Ballesteros J[3], Rodríguez PC[1], Crombet T[1], Lage A[1]
[1]Center of Molecular Immunology, Havana, Cuba, [2]Cuban National Cancer Registry, Havana, Cuba, [3]University of the Basque Country UPV/EHU, Leioa, Spain
OBJECTIVES: To ascertain the existence of several populations regarding overall survival (OS) in patients with advanced non-small-cell lung cancer (NSCLC). **METHODS:** Data of OS from the Cuban National Cancer Registry (CNCR) and from Cuban multicentre trials of immunotherapy were analysed with a lognormal mixed model assuming 1 to 6 underlying populations. The Bayesian Information Criterion (BIC) was used to select the best model fitted to the data in all cases. **RESULTS:** The CNCR provided data for 31133 patients diagnosed with lung cancer since January 1998 until December 2008. Of those, 7286 patients presented stages IIIb-IV of NSCLC at diagnosis and were selected for analysis. The immunotherapy Cuban trials provided data for more than 750 patients enrolled in 8 trials conducted since 1997 until 2010. The mixed model applied to CNCR data separated 4 populations: very high risk (OS mean time = 0.62 months, 23% of the sample); high risk (OS mean time = 3.1 months, 34%); medium risk (OS mean time = 9.2 months, 35%); and low risk (OS mean time = 29.1 months, 8%). Results for clinical trials separated 2 populations for controls and 3 populations for the immunotherapy groups. For controls a population of medium risk (OS mean time = 11.6 months, 61%) and other of low risk were obtained (OS mean time = 31.7 months, 38%). For NSCLC patients with immunotherapy a population of medium risk (OS mean time = 11.2 months, 55%); a population of low risk (OS mean time = 23.8 months, 33%); and another of very low risk or long-term survival were obtained (OS mean time = 55.5 months, 12%). **CONCLUSIONS:** Our analyses support the existence of several populations regarding OS among advanced stage lung cancer.

PCN37
SURVIVAL ANALYSIS USED IN COMPANY SUBMISSIONS TO THE NATIONAL CENTRE FOR PHARMACOECONOMICS, IRELAND
McCullagh L, Barry M
National Centre for Pharmacoeconomics, Dublin, Ireland
OBJECTIVES: Many company submissions received by Health Technology Assessment (HTA) Agencies evaluate the cost effectiveness of interventions which impact on survival. An accurate estimate of the survival benefit is required to calculate a reliable estimate of cost effectiveness. Generally the relevant trial data is immature and must be extrapolated. Many extrapolation models are available. Model choice is critical; different models can lead to different cost effectiveness results. The objectives were to review the methods/justification of the survival analysis used in company submissions to the National Centre for Pharmacoeconomics (NCPE). A further aim was to develop NCPE Guidance for the future handling of survival analysis. **METHODS:** Relevant submissions to the NCPE (economic evaluations which had dealt with advanced and/or metastatic cancer) were reviewed to determine the methods/justification of the survival analysis used. **RESULTS:** Twelve submissions were evaluated. Appropriately, the mean overall survival (OS) had been estimated and used in eight cases (67%). Median OS estimates had been estimated/used in three (25%). It was unclear which measure had been used in the remaining submission. The submissions which had used mean OS estimates were further investigated. Parametric model-based extrapolation techniques had been used to calculate the mean estimates in all eight. The most popular parametric models were the Weibull (n=3) and the loglogistic (n=3). The methods used to fit the parametric models varied. Most commonly the model was fitted using individual patient-level data. Some justification for the choice of extrapolation technique was offered in five submissions; AIC +/or BIC were estimated in three and visual inspection was reported in two. **CONCLUSIONS:** Survival analysis has not been conducted appropriately in all HTAs. Justification of the choice of model is not always offered. Moving forward, NCPE Guidance is required to ensure that survival analysis using patient-level data is conducted appropriately. These will be presented.

CANCER – Cost Studies

PCN38
BUDGET IMPACT OF METASTATIC CASTRATE-RESISTANT PROSTATE CANCER (CRPC) TO GERMAN PAYERS
Jensen IS[1], Wu C[1], Cyr PL[1], White RE[2]
[1]PriceSpective LLC, Cambridge, MA, USA, [2]Teva, Inc, Horsham, PA, USA
OBJECTIVES: The 2010 Urological Association Guidelines for Management of Castrate-Resistant Prostate Cancer (CRPC) recommend docetaxel plus prednisone for first-line chemotherapy for symptomatic metastatic CRPC patients who have progressed from hormone therapy. Since 2010, several CRPC agents with better tolerability and longer survival have launched. These improved therapies are causing a shift in practice. The aim of our analysis was to 1) quantify the 3-year mCRPC budget impact for the German health system based on the practice shift, and 2) estimate the cost per additional month of progression-free survival (PFS). **METHODS:** A conceptual decision analytic model was developed for the German health system to estimate the impact on direct medical costs of a therapy shift in CRPC over three years. Guideline recommended regimens were represented in model with three lines of therapies: palliative, abiraterone, enzalutamide, docetaxel and cabazitaxel. Progression in therapy was measured as the duration of PFS. A targeted literature search identified US per-patient-per-month costs of docetaxel treated patients (hospitalization=€954, ambulatory=€765, ER=€32, MD=€318) and were adapted to the German health system by applying a published purchase price parity factor. Drug costs were based on Ex-factory pricing. Adverse event rates were used as a proxy to derive relative resource utilization of other treatments. Utilization of CRPC regimens was informed by interviews with EU opinion leaders. **RESULTS:** The shift in practice pattern is expected to increase the German health system's 3-year budget by €23 million. The additional cost/month of PFS is estimated to decrease by €99/month from €4,659 for current treatment mix to €4,560 for future treatment mix by year 3. **CONCLUSIONS:** From the German health system's perspective, a change in practice pattern will result in an increase in total budget of €23 million. The reduction in cost/month of PFS of €99/month indicates the shift in practice will use more efficient therapies.

PCN39
ECONOMIC IMPACT OF DENOSUMAB FOR SKELETAL RELATED EVENT PREVENTION IN PATIENTS WITH PROSTATE CANCER AND BONE METASTASIS FROM A UNITED STATE MANAGED CARE ORGANIZATION PERSPECTIVE
Arellano J[1], Cristino J[2], Chen K[3]
[1]Amgen Inc., Thousand Oaks, CA, USA, [2]Amgen (Europe) GmbH, Zug, Switzerland, [3]Amgen, Inc., Thousand Oaks, CA, USA
OBJECTIVES: To evaluate clinical and economic impact of increasing denosumab use compared to zoledronic acid (ZA) in PrCa patients with BM to a MCO. **METHODS:** An economic model was developed to estimate clinical and economic impact to a 1-million-member US MCO of introducing denosumab as bone targeting agent (BTA) for prevention of SREs in PrCa patients with BM. Total number of patients receiving BTA was estimated based on disease prevalence and treatment eligibility in this population. The real-world SRE rates in ZA-treated patients were derived from a large commercial database and used together with the trial-