the colorectal cancer and comparison groups, adjusted for baseline demographic and clinical characteristics. RESULTS: A total of 75,208 patients were identified for the colorectal cancer and comparison cohorts. After 1:1 PSM, 24,053 patients were matched from each group, and the baseline characteristics were proportionate:

- Patients diagnosed with colorectal cancer had more high comorbidity (58.67% vs. 26.1%, p < 0.001) and costs over a 1-year period compared to patients without colorectal cancer.

OBJECTIVES: Women of childbearing age with a diagnosis of breast cancer often require therapeutic options that do not increase the risk of cancer recurrence after successful treatment. These reports and positive changes in the survival rates of breast cancer patients can impact the decisions of patients and physicians. The goal of this study was to estimate the number of breast cancer survivors surviving in Germany (IMbS Disease Analyzer). Data from women aged 20-45 with a pregnancy within 10 years after the first breast cancer diagnosis from 107 gynecological practices in Germany (Disease Analyzer database, 01/1992 to 12/2012) were analyzed in the time period 2000-2005, 5 years (projected to national level: 4615) women became pregnant after a breast cancer diagnosis; this number increased to 114 (projected to national level: 8904) between 2010-2012. The mean age at first pregnancy significantly changed from 2000-2005 (31.1 years SD: 6.0) and 34.2 years (SD: 6.1)). The time between the first breast cancer diagnosis and pregnancy identification was 966 days (SD: 690) in 2000-2012 and 552 days (SD: 696) in 2010-2012 (p<0.01). CONCLUSIONS: This retrospective analysis showed that the proportion of pregnant breast cancer patients has significantly increased in the last 10 years. More over, the time to pregnancy has become significantly shorter. This is indicative of the positive and hopeful developments for young women affected by breast cancer. Further studies on this important research topic are necessary.

PCN10 EVALUATION OF VARIABLES RELEVANCE AND ACCESSIBILITY TO SUPPORT PERSONALIZED MEDICINE IN BREAST CANCER Udomkorn S1, Steneljem D2, Welch B1, Cheng Y1, Anderson L2, Colonna S1, Neumayr L1, Renger D1

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OBJECTIVES: Personalized medicine (PM) aims to tailor medical treatment to individual patients by considering the molecular, genetic, and biological characteristics of the disease. This retrospective analysis showed that the proportion of pregnant breast cancer patients has significantly increased in the last 10 years. More over, the time to pregnancy has become significantly shorter. This is indicative of the positive and hopeful developments for young women affected by breast cancer. Further studies on this important research topic are necessary.

PCN11 AN INDIRECT TREATMENT COMPARISON OF THE EFFICACY OF EVEROLIMUS (AFINITOR®) AND FULVUSTAT FOR THE TREATMENT OF HORMONE RECEPTOR POSITIVE (HR+) HER2 NEGATIVE (HER2-) ADVANCED OR METASTATIC BREAST CANCER Chandiwana D1, Vieira J1, Granville J1, McCool R1, Fleetwood K2

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OBJECTIVES: To indirectly compare the efficacy of fulvestrant-free survival (PFS) to Everolimus-TT (E+) and overall survival (OS) of everolimus plus exemestane (E+/ExE+) with fulvestrant in patients with hormone receptor positive, HER2 negative advanced or metastatic breast cancer. METHODS: A systematic search of the Cochrane Library and other resources was undertaken to identify reviews and clinical trials reporting interventions for metastatic breast cancer that would allow an indirect comparison of fulvestrant and E+/ExE+. A Bayesian fixed effect model was used with exemestane adopted as the base treatment for the model because it provided the most consistent information in the network. The basic parameters of the model are the log hazard ratios with respect to exemestane for PFS/TTP and OS from the included studies. RESULTS: Ten clinicians identified 67 possible variables for inclusion into the dashboard. According to the broader electronic survey 25 clinicians determined 39 "must have" variables with 9 patient specific variables (e.g. age at diagnosis, comorbidities, hormone replacement use, cancer history). 13 tumor specific variables (e.g. clinical stage at diagnosis, histologic grade, laterality) and 17 timeline related variables (e.g. date and type of surgery, chemo/endoctrine/targeted therapies received by date, chemotheraphy regimen and cycle information, overall survival). This retrospective analysis showed that the proportion of pregnant breast cancer patients has significantly increased in the last 10 years. More over, the time to pregnancy has become significantly shorter. This is indicative of the positive and hopeful developments for young women affected by breast cancer. Further studies on this important research topic are necessary.

PCN9 PREGNANCY AFTER BREAST CANCER IN 2000-2002 AND 2010-2012: A RETROSPECTIVE DATABASE ANALYSIS Kalamidou N1, Warshel L1, Rej F1, Kostev K2, Ziller V1

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OBJECTIVES: The development of targeted therapies has changed the paradigm of cancer management necessitating the use of robust biomarkers to identify eligible patients. This study aims to evaluate trends in molecular diagnostic test (MDT) uptake across various solid tumors. METHODS: This study used IMS Oncology Analyzer, a patient database collected through a quarterly physician panel survey. This database provides comprehensive insights into cancer patients and their MDTs: metastatic stages and diagnosed with breast (BC), stomach (SC), non-small-cell lung cancer (NSCLC) or colorectal cancer (CRC) and receiving chemotherapy. MDT uptake was analyzed from time 0 (year of the European Medicines Agency -EMA- approval of the associated targeted therapy) until 2012. The analysis was done on 5 EU countries (France, Germany, Italy, Spain and UK).

RESULTS: Trastuzumab was approved in 2000 and by 2012, about 69% of patients in 2000-2002 and 2012 were prescribed Trastuzumab, where BC patients were more prescribed. Paclitaxel and docetaxel were also prescribed. This study suggests the incorporation of biomarkers in clinical trial design must be tailored to markers with limited prognostic value. CECs and CA19-9 showed prognostic and PlGF and soluble VEGFR-1/VEGFR-2 demonstrated value as pharmacodynamic biomarkers with limited prognostic value.

CONCLUSIONS: The higher health care utilization resulted in increased health care costs ($16,232 vs. $2,903, p < 0.001). Patients diagnosed with colorectal cancer had more health care utilization and costs over a 1-year period compared to patients without colorectal cancer.

**PCN8**

A LESSON LEARNED FROM AVASTIN® - BEVACIZUMAB INDUCED HYPERTENSION AS A PREDICTIVE BIOMARKER OF PATIENT RESPONSE IN OVERCOMING REGULATORY AND HEALTH TECHNOLOGY ASSESSMENT (HTA) HURDLES Fowler RC, Stoor-Doehrer LM, Morrison S

Objectives: To explore and prioritize the variables that impact on the approval of new molecular targeted therapies. This can help toward a real time clinical decision support dashboard. According to the broader electronic survey 25 clinicians determined 39 "must have" variables with 9 patient specific variables (e.g. age at diagnosis, comorbidities, hormone replacement use, cancer history), 13 tumor specific variables (e.g. clinical stage at diagnosis, histologic grade, laterality) and 17 timeline related variables (e.g. date and type of surgery, chemo/endoctrine/targeted therapies received by date, chemotheraphy regimen and cycle information, overall survival). This retrospective analysis showed that the proportion of pregnant breast cancer patients has significantly increased in the last 10 years. More over, the time to pregnancy has become significantly shorter. This is indicative of the positive and hopeful developments for young women affected by breast cancer. Further studies on this important research topic are necessary.
or 500mg. The indirect analysis did not show a statistically significant difference in OS between enzalutamide and palonosetron.

PCN12 SMALL MOLECULE TARGETED THERAPIES FOR THE SECOND LINE TREATMENT OF METASTATIC PROSTATE CARCINOMA (mCRPC): A SYSTEMATIC REVIEW AND INDIRECT COMPARISON OF SAFETY AND EFFICACY

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OBJECTIVES: Patients with mCRPC and a good performance status typically receive an anti-VEGF TKI (sunitinib or pazopanib) as initial therapy. Upon disease progression of intolerance, there are four orally administered agents approved in the 3rd -line setting (including cytokine-refractory). However, head to head comparative trial data are limited. In the absence of such data, mixed treatment comparison (MTC) models are a widely accepted statistical method for generating comparative effectiveness information. In this study, an indirect comparison on the safety and efficacy was undertaken between axitinib, sorafenib, pazopanib and enzalutamide for 3rd - line therapy in advanced RCC. METHODS: A systematic review of major databases was performed for randomized controlled trials evaluating at least one of the four agents in 3rd - line mCRPC. Bayesian MTC models were fitted to assess comparative effectiveness based on multiple endpoints: tumour response, progression-free survival (PFS), grade 3/4 toxicities such as diarrhea, fatigue, hand foot skin reaction, rash and stomatitis as well as treatment discontinuations. RESULTS: A total of four randomized trials meeting the inclusion criteria were appropriate for the statistical pooling exercise. All four agents seem able to deliver similar 3rd -line package and provide comparable PFS benefit. Axitinib was superior to pazopanib (HR = 0.64, 95%CI: 0.41 to 0.96) and sorafenib (HR = 0.70; 95%CI: 0.57 to 0.87) in terms of PFS. However, patients receiving axitinib would be at an elevated risk for fatigue and a lesser extent, stomatitis. CONCLUSIONS: In keeping with the main caveats associated with cross-trial comparisons, axitinib appears to provide superior PFS benefits relative to pazopanib and sorafenib. However, this is at a cost of C0D1 grade 3/4 toxicities. Everolimus, a mTOR inhibitor, is mechanistically distinct from the other agents evaluated and would be a useful option post anti-VEGF TKI failure.

PCN13 TARGETED THERAPY IN TRIPLE-NEGATIVE METASTATIC BREAST CANCER (TNBC) - A SYSTEMATIC REVIEW AND META-ANALYSIS

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OBJECTIVES: To perform a systematic review and meta-analysis of all randomized controlled trials comparing the efficacy of targeted therapy to conventional CT in patients with TNBC. The meta-analysis compared targeted therapy to single agent chemotherapy. METHODS: All databases were searched, including MEDLINE, EMBASE, LILACS, and CENTRAL. The primary endpoint was progression-free survival (PFS). We performed a meta-analysis (MA) of the published data. The results were expressed as Hazard Ratio (HR) or Risk Ratio (RR), with their corresponding 95% confidence intervals (CI 95%). RESULTS: The final analysis included 12 trials comprising 2,054 patients with TNBC. It was evidenced studies with conventional CT plus targeted therapy including bevacizumab (Bev), sorafenib (Sor), cetuximab and iniparib. The Bev was higher in patients who received Bev plus CT compared to CT alone in previously untreated patients with TNBC (fixed effect: HR = 0.62; CI 95%: 0.51-0.75; p <0.0001). The Bev was also higher in patients with Bev plus CT in previously treated patients (fixed effect: HR = 0.49; CI 95%: 0.33-0.74; p =0.0006). Sor plus CT was available in first-line and second-line. The Bev was higher in the group with Sor versus CT alone (fixed effect: HR=0.69; CI 95%: 0.60-0.79; p <0.0001). Rituximab plus CT was higher (HR=0.70; CI 95%: 0.62-0.90; p=0.02). CONCLUSIONS: Bev, Sor, and iparib, when associated with the conventional CT, demonstrated gains in the F3S of patients with TNBC.

PCN14 ABRATERONe AND ENZalutamide for tHe tREATment of metastatic CastraTrion-caStion-reSistant prostate cancer (mCRPC) POST CHEMOTHERAPY: AN INDIRECT COMPARISON AND BUDGET IMPACT ANALYSIS

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OBJECTIVES: Abiraterone and enzalutamide are two new treatment options for patients with mCRPC after docetaxel-based chemotherapy. This study aims to understand the relative clinical and economic value of these therapies.

METHODS: Two pivotal clinical trials were conducted to evaluate abiraterone and enzalutamide in post-docetaxel treatment of mCRPC. Study COU-AA-301 for abiraterone and the AFFIRM trial for enzalutamide. The PCO (population, intervention, comparison, and outcomes) construct was employed to assess the comparability of the trials, followed by an indirect comparison treatment (ITC) using the Bucher method and a mix treatment comparison using Bayesian statistics. An economic evaluation was performed based on the ITC results. RESULTS: Several key differences were identified between the COU-AA-301 and AFFIRM trials. First, the study used different comparators. Abiraterone plus prednisone was compared with prednisone alone, while enzalutamide was compared with placebo. Second, the endpoints PFS, PSA progression, and PSA radiographic progression with genitourinary symptoms were differently assessed between trials, and thus were not included in the analysis. To address the difference in comparators, the ITC was performed using data from COU-AA-301 and subjects receiving corticosteroids concurrently in the AFFIRM trial. OS was significantly improved with both abiraterone and enzalutamide (HR 0.69; 95%CI: 0.51-0.94 and HR 0.67; 95%CI: 0.52-0.89, respectively). The ITC model was developed for abiraterone versus enzalutamide using the Bucher method, and HR = 0.98 (95% CI: 0.71-1.26) using the Bayesian method. Using the US price for abiraterone and enzalutamide (approved in the US only), and assuming 25% of patients received therapy following docetaxel, cost savings from using abiraterone would be >$10K/patient-year for $49 OM/year nationally. CONCLUSIONS: Differences in study design should be addressed when conducting ITC. The evidence from this ITC shows that abiraterone and enzalutamide have similar efficacy in OS mCRPC post chemotherapy. However, abiraterone is cost saving compared to enzalutamide in this analysis.

PCN15 DIFFERENCES IN MEDICAL COST AND SURVIVAL BETWEEN TRIAL AND NON-TRIAL PATIENTS WITH ACUTE MYELOID LEUKAEMIA – A UK POPULATION-BASED PROPENSITY ANALYSIS

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OBJECTIVES: Information about acute myeloid leukaemia (AML) includes the costs of treatment and survival-estimates, are usually derived from clinical trial data. However, it is not known whether this information is generalizable to non-trial patients. This study was carried out to evaluate the differences in medical costs and survival between trial and non-trial patients with AML. METHODS: The Haematological Malignancy Research Network (HMRN, www.hrmn.org) is an established population-based patient cohort that registers around 2000 newly diagnosed AML patients each year. All adult patients with AML registered in HMRN from 2004 and August 2007 and treated with induction intent were included. Patients were followed until August 2012, and the comparative outcomes were medical costs and survival. Standard statistical analyses were used to measure unadjusted difference in outcomes, and propensity score analyses were applied to measure differences by adjusting for baseline imbalance in pre-treatment characteristics between trial and non-trial patients. RESULTS: Overall, 173 patients treated with induction intent were included, of which 106 were trial and 67 non-trial. Trial participation was associated with younger age, fewer comorbidities, better prognosis, and being treated at teaching hospitals. Before controlling for patients’ characteristics, trial patients had better survival (median survival 28.7 vs 8 months; p<0.001) and medical costs (mean costs £84,497 vs £49,624; p<0.001). CONCLUSIONS: For AML patients treated with induction intent, significant differences were observed in treatment costs and survival according to trial status, both before and after controlling for patients’ pre-treatment characteristics. Data generated solely from clinical trials may therefore not be generalizable to non-trial patients and should be treated with some caution when used to facilitate decision-making.

PCN16 THE EFFECT OF POSITIVE MARGINS ON OUTCOMES IN BREAST CANCER

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OBJECTIVES: To review the data available on excision margins following breast-conserving therapy (BCT), focusing on definitions of positive and clear margins, percentage of operations resulting in positive margins, the effect of positive margins on future treatment, and the relationship between positive margins and disease-free and overall survival. METHODS: Targeted searches of PubMed were conducted using a predefined search strategy. Data from robust systematic reviews and/or meta-analyses were selected on the basis of precision of results. RESULTS: The positive margin status in patients undergoing BCT may have the potential to improve outcomes. Four studies that assessed the association with margin status, P<0.001. CONCLUSIONS: Definition of adequate margins remains controversial. None-the-less, final margin status is a key prognostic factor following BCT. The data identified suggest that an intervention that reduces the rates of positive margins during BCT may have the potential to improve outcomes and reduce the burden on patients and health care providers.

PCN17 A MIXED TREATMENT COMPARISON (MTC) TO COMPARE PROGRESSION FREE SURVIVAL (PFS) ASSOCIATED WITH DIFFERENT CHEMOTHERAPY REGIMENS FOR PLATINUM-SENSITIVE OR PARTIALLY PLATINUM-SENSITIVE RECURRENT ADVANCED OVARIAN CANCER

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BACKGROUND: This research was conducted during a review of the manufacturer’s submission (MS) to the NICE Single Technology Appraisal programme for bevacizumab, a vascular endothelial growth factor (VEGF) inhibitor. Bevacizumab in combination with paclitaxel/carboplatin has recently been licensed for use in patients with platinum-sensitive or partially platinum-sensitive recurrent advanced ovarian cancer. This research compared this new triple therapy with treatments used in clinical practice in the UK: platinum monotherapy, gemcitabine/carboplatin, paclitaxel/carboplatin and gemcitabine/fluorouracil/leucovorin/cisplatin. METHODS: Randomised controlled trials (RCTs) for inclusion were identified using the MS for bevacizumab. RCTs were assessed for comparability based on patient population, disease severity, platinum sensitivity, and treatments received. An MTC was conducted using a Bayesian Markov chain Monte Carlo simulation.