it is a direct measure of treatment effect on tumour burden and measures only the effect of the study drug. PFS has also been accepted by regulatory bodies as a measure of the efficacy of cancer treatments. CONCLUSIONS: OS is generally regarded as the preferable endpoint (from a payer’s perspective) for demonstrating clinical benefit in NSCLC. There are challenges, however, with demonstrating OS benefit of new therapies for NSCLC. PFS data may be more appropriate for use in certain situations, especially those in which subsequent lines of therapy exist.

PCN127 METHODS FOR INDIRECT COMPARISON EFFECTIVENESS IN COST-EFFECTIVENESS ANALYSES OF ONCOLOGY AGENTS: THE PROPORTIONAL HAZARDS ASSUMPTION MATTERS
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OBJECTIVES: The objective of the study was to propose an alternative indirect comparison method and compare it to the standard method. METHODS: In the absence of head-to-head trials, the standard method for estimating indirect relative effectiveness is to obtain an incremental ratio (IR) estimate using the two HRs from the comparator trials against a common 3rd one. This method, however, is only valid if the assumption of proportional hazard (PH) holds. We proposed an alternative indirect comparison method that does not depend on the PH assumption, which consists of calculating the absolute difference between treatment arms at each two-week period in drug B trial and applying this difference to the common comparator in drug A trial to generate the adjusted curve for drug B. This was done for Progression-free Survival (PFS) and Overall Survival (OS) from parametric estimates through the observed and extrapolated periods. Trial data for cetuximab and panitumumab trials were used to find the treatment effect on metastatic colorectal cancer was used to examine the PH assumption and compared the two methods for estimating the relative treatment effect between the two agents. RESULTS: The functional form for the PFS and OS distributions was found to be different for panitumumab compared to cetuximab (Weibull versus Gompertz parameter value for TTA were TTA = 1.616 versus 1.761, OS = 1.314 versus 1.336, respectively). Thus, the PH assumption was violated. Panitumumab trial was set as the reference (the estimated mean PFS = 0.917 years and mean OS =2.669). Using the standard method and our proposed method, the indirectly estimated PFS for OS for cetuximab (mean PFS OS vs 0.920 years; mean OS = 2.393 versus 2.312, respectively. CONCLUSIONS: The standard methodology for indirect comparison allows easy execution. However, if the PH assumption is violated, alternative methods, such as the one proposed in this study, can be considered.

PCN128 LINKING MEDICARE, MEDICAID AND CANCER REGISTRY DATA TO STUDY BURDEN OF CANCERS IN WEST VIRGINIA (FUNDING: AHQR - R24 HS18622-01)
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OBJECTIVES: The objective of this study was to develop a unique linked Medicare-Medicaid-WV Cancer Registry (WVCR) de-identified dataset to determine health care utilization, costs and overall burden of breast, colorectal, lung, and prostate cancers diagnosed in persons ≥ 65 years of age who live in WV and to compare them to their national counterparts. METHODS: The linkage was performed in three stages, following process as originally described by Potosky (1993) and adapted by Bradley (2007) and Korsoukin (2008). In phase one, a list of individual’s ≥65 years of age with incident diagnosis of any cancer between January 1, 2002 and December 31, 2007 were extracted from WVCR data. The WVCR, Sex, and Date of Birth of these individuals were sent to CMS to create a crosswalk file for these individuals to include with purchased WV Medicare data. In phase two, Medicare data were linked with WVCR data using the crosswalk file provided by CMS. In phase three, WVCR data were linked with Medicare enrollment data using personal identifiers. After the linkage was performed, a data research set was created. RESULTS: In phase one, we identified 42,288 individuals ≥65 years of age with incident diagnosis of any cancer from 2002 to 2007 in the WVCR data. When linked with Medicare data in the second phase, 41,575 (98.3 %) individuals were matched. In phase three, WVCR data were matched with Medicaid enrollment data for 5790 (13.7%) individuals using SSN, First Name, and Last Name, for 5860 (13.9%) individuals using SSN, Last Name, Month of Birth, and Sex; and, for 5747 (16.6%) individuals using SSN, First Name, Month of Birth, and Sex. CONCLUSIONS: Non-participant states in SEER-Medicare can build a powerful phase 2 database if they have a crosswalk file. We used the linked Medicare-Medicaid-Cancer Registry dataset to identify and target cancer disparities to improve outcomes in their elderly and dual-eligible citizens.

PCN129 USE OF ELECTRONIC MEDICAL RECORDS (EMR) FOR ONCOLOGY RESEARCH: ASSESSING THE COMPARABILITY OF EMR INFORMATION TO PATIENT REGISTRY AND HEALTH CLAIMS DATA
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OBJECTIVES: Electronic medical records (EMRs) are used increasingly for research. Our objectives were a) to understand the utility of an EMR oncology database compared with SEER-Medicare registry data and from these databases to b) identify areas for improvement in data collection, analysis, and interpretation in clinical oncology, epidemiology, and comparative effectiveness research. METHODS: Demographic, clinical, and treatment characteristics in the four databases were compared using six tumor types: breast, lung/bronchus, head-neck, colorectum, prostate, and NHL. Data imputation was performed using the hot-deck method; patient characteristics were compared using Cohen’s effect size. We described patient and clinic inclusion criteria, treatment definitions, and purposes of each database to enable comparisons. RESULTS: Sex and 10-year age distribution were similar across all four datasets. One database had a large proportion of missing data for stage (~70%) and race (~40%), which were replaced with imputed values. There were several differences in racial composition (~15%) and ambulatory chemotherapy treatment (~30%), and modest (~<10%) differences in distribution type likely due to differences in geographic distribution of included patients and clinics. Overall, Cohen’s effect size analyses indicated small to medium differences (w=0.3) in patient characteristics across databases. In the EMR database were more likely to receive biologics and less likely to receive hormones compared to those in the reference databases, with the largest differences (~40%) observed in prostate cancer patients. In the EMR dataset, we considered only 16% of patients (~40%) observed in prostate cancer patients. We usually seen first or primarily by urologists. CONCLUSIONS: Several factors must be considered when using EMRs for oncology research purposes with a target of the US cancer population, particularly when evaluating treatment patterns. Important factors include evaluation of stage, geography, race, and medical facilities’ specialization. EMR database utility might be enhanced through imputation, addition of specific physician notes (e.g., stage) and linkage to other data sources.

PCN130 RECORD-LINKAGE FOR PHARMACOEPIEMIOLOGIC STUDIES IN CANCER PATIENTS
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OBJECTIVES: To create an overview that makes researchers aware of the available database linkages in Northern America and Europe which facilitate pharmacoe- piemologic studies in cancer patients. METHODS: In addition to our own database, i.e. the Eindhoven Cancer Registry (ECR) linked to the PHARMO RLS, we considered database linkages between a general practice database and a censored observation dataset for all-cause mortality, and a linked tumor information of incident cancer cases, and an administrative healthcare database, that at least contains information on drug use and offers a longitudinal perspective on health care utilization before, during and after cancer diagnosis. Eligible database linkages should have been used in multiple published articles in English language included in PubMed. The Cancer Research Network (CRN) in the United States was excluded from this review, as an overview of the linked databases participating in the CRN is already provided elsewhere. Research- ers who had worked with the data resources included in our review were contacted for additional information and verification of the data presented in the overview. RESULTS: Ten database linkages met the inclusion criteria: the SEER-Medicare, cancer registry data linked to Medicaid, the British Columbia Cancer Registry and Health data, the Saskatchewan Health Plan Databases, the Scottish cancer registry linked to the Tayside drug dispensing data, linked databases in the Nordic Countries of Europe: Norway, Sweden, Finland and Denmark, and the ECHR-PHARMO linkage in The Netherlands. Descriptives of included database linkages comprise population size, generalizability of the population, year of first data availability, vital status, contents of the cancer registry, contents of the administrative health-care database, the possibility to obtain cancer-free health-care database linkage, and to other health care databases. CONCLUSIONS: Various valuable resources of information are available to study the disease management of cancer, including treatment patterns and outcomes assessments, creating new opportunities for post-approval evaluation of anti-cancer drugs.

PCN131 REPRESENTING UNCERTAINTY IN CALIBRATED CANCER TREATMENT MODELS: A PRACTICAL APPROACH
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OBJECTIVES: Cancer treatment models are often based on progression-free sur- vival (PFS) and overall survival (OS) data. If the model objective requires extrapolating results or exploring “what-if” scenarios, disease progression parameters are calibrated so that the model replicates the PFS and OS data. Uncertainties in the estimation of the Kaplan-Meier survival curves used as calibration targets, and in the simulation process not compensating for sampling uncertainty, are a concern. Sensitivity analyses. The objective of this study was to demonstrate methods for incorpo- rating these uncertainties into probabilistic sensitivity analyses (PSA) and to explore their implications. METHODS: We constructed hypothetical PFS and OS survival (with censoring) for two treatments (TXA & TXB) and a corresponding three-state Markov model (Non-progressed (NP), Progressed (P), Dead (D)). Health states were assigned costs and utilities consistent with advanced cancer. Three transition probabilities for each treatment (NP→P, NP→D, P→D) were calibrated (using Excel Solver) to simultaneously fit (using mean squared deviation) the PFS/OS curves. We performed three increasingly comprehensive PSAs using second- order Monte Carlo simulation (SMCS): 1) conventional PSA including only parameter (initial values, constraints, objective function). Uncertainty in cost-effec-