various methods for adjusting confounders in estimating comparative effectiveness. The Medline literature search in PubMed was conducted to identify published articles with the key words such as propensity score, instrumental variable analysis, inverse probability, Propensity Instrumental, Propensity Inverse probability, machine learning, support vector machine, CART (Classification And Regression Tree) and Random Forest. The search was performed by comparing proportions of methods before 2008 and after 2008. RESULTS: 5021 articles were found with the key word of comparative effectiveness. 227 articles had the key word of propensity. 56 articles had the key word of instrumental. 29 articles had the key word of inverse probability. 20 articles had key words of both propensity and instrumental. 12 articles had key words of both propensity and inverse probability. 6 articles had key word of machine learning. 6 articles had key word of CART. No article was found to have the key word of support vector machine. Overall 6.2% of articles had one of the key words, indicating usage of confounder adjustment methods in comparative effectiveness research. Two articles had three key words of propensity, Inverse probability and instrumental. Based on the Chi-square test, significant increase of usage with P-value < .05 in trend has been observed. CONCLUSIONS: Based on search result, significant increase in usage of confounder adjustment methods was observed since 2008. In a few articles, results from a few instrumental variable analyses were identified with employing various methods for adjustment of confounders. Also application of machine learning methods is recommended to find stable estimates of models used, especially to adjust for time dependent confounders.

PRM11
EVALUATING CONTENT VALIDITY OF PERFORMANCE OUTCOMES (PERFOS): ESTABLISHING THE PATIENT-RELEVANCE OF THREE PERFOS IN ELECTIVE TOTAL HIP REPLACEMENT ETHER
Ballinger E,2, Kerr C,3, Bush EN2
1ICON Health Economics, UK, 2Health Care, WilkesBarre, IN, USA
OBJECTIVES: Performance Outcomes (PERFOS) measure tasks performed by a patient under the instruction of a health-care professional. PERFOS used to support shared decision-making require content validity evidence. This study explored patient experience and relevance of three elective total hip replacement (tETHR) PERFOS: the timed up and go (TUG), four step stair climb (4SC) and long stair climb (LSC). METHODS: Eight recent tETHR patients in the US were interviewed by telephone completing three PERFOS. Participant interviews included experience of completing the PERFOS, and how the movements, speed and level of difficulty corresponded to activities in their everyday lives. Interviews were audio-recorded, transcribed and systematically coded. Saturation was assessed by tabulated patient summaries from which new elements reported in each interview were identified. RESULTS: The sample comprised six females and two males, with mean age 67 years. All participants related TUG movements to activities in their daily life (e.g. getting up to turn on the television). Climbing 12 or more steps (LSC) was less common. However, the majority recalled examples of this and felt the LSC accurately reflected movement and ability in their replaced hip. Two participants reported LSC completion increased their confidence and staircase use. Small differences between PERFOS and everyday activities/function were reported (e.g. TUG: the type of chair and turning towards rather than away from the midline). Assessment of satisfaction suggested additional international trials might yield further variations in patient experience but that sufficient consensus and depth was achieved to understand the relevance of the PERFOS to everyday function. Conclusions: New methodological approaches developed to explore content validity of PERFOS demonstrate the connection between three PERFOS and daily function of tETHR patients.

PRM12
CLINICAL TRIALS REGISTRIES FOR SYSTEMATIC REVIEWS – AN ALTERNATIVE SOURCE FOR UNPUBLISHED DATA
Halonen N,1 Thompson JR,2 Quigley JM,3 Scott DA4
1ICON Health Economics, Oxford, UK, 2ICON Health Economics, Charlottesville, VA, USA
OBJECTIVES: When conducting a systematic review it is common practice to search for peer-reviewed publications and conference proceedings to identify studies relevant to a research question. However, information about studies is increasingly available through other sources and can be of importance in systematic reviews. Clinical trials registries (CTRs) are one of the most commonly used CTRs and provides search facilities that enable the identification of trials through common search terms. In addition, there is the potential to request information from study sponsors through clinicaltrialdataquest.com. This website is supported by several prominent study sponsors and allows reviewers to request access to unpublished data which may be of importance in a systematic review. OBJECTIVES: We identified two disease areas (melanoma and juvenile idiopathic arthritis (JIA)) for instances where there were discrepancies in reporting of endpoints between peer-reviewed publications and the clinicaltrials.gov web-page for corresponding trials. We submitted requests to clinicaltrialdataquest.com for additional information on trials and advanced searches for additional reporting of subgroup as well as efficacy endpoints in clinicaltrials.gov that were not available in peer-reviewed publications. RESULTS: Additional information was reported on over 100,000 patients in a peer-reviewed publication; results stratified by previous therapy were available from the CTR. In addition, results from our search in JIA included additional reporting of efficacy outcomes such as change in component scores from baseline. We detail length of time for research requests and clinical trial submission processes at clinicaltrialdataquest.com. CONCLUSIONS: We conclude that sources other than peer-reviewed articles and conference abstracts should be considered when identifying study information that may be relevant to a particular review. Unpublished data may be available that can impact a systematic review and evidence synthesis.

PRM13
THE EXTRACTION FOR SYSTEMATIC REVIEW – WHERE TO LOOK FOR DATA OUTSIDE THE PRIMARY PUBLICATION
Quigley JM, Halfpenny NJ, Thompson JC, Scott DA
ICON Health Economics, Oxford, UK
OBJECTIVES: A common problem in systematic reviews are incomplete data extraction forms resulting in problems attempting evidence synthesis; we rarely have all the data for the endpoints of interest for all studies, and parameters that inform meta-analysis cannot be connected. The primary publication was performed by comparing proportions of methods before 2008 and after 2008. RESULTS: 5021 articles were found with the key word of comparative effectiveness. 227 articles had the key word of propensity. 56 articles had the key word of instrumental. 29 articles had the key word of inverse probability. 20 articles had key words of both propensity and instrumental. 12 articles had key words of both propensity and inverse probability. 6 articles had key word of machine learning. 6 articles had key word of CART. No article was found to have the key word of support vector machine. Overall 6.2% of articles had one of the key words, indicating usage of confounder adjustment methods in comparative effectiveness research. Two articles had three key words of propensity, Inverse probability and instrumental. Based on the Chi-square test, significant increase of usage with P-value < .05 in trend has been observed. CONCLUSIONS: Based on search result, significant increase in usage of confounder adjustment methods was observed since 2008. In a few articles, results from a few instrumental variable analyses were identified with employing various methods for adjustment of confounders. Also application of machine learning methods is recommended to find stable estimates of models used, especially to adjust for time dependent confounders.

PRM15
INVESTIGATION OF RELATIONSHIPS BETWEEN BIOMARKERS OF POTENTIAL HARM AND CIGARETTE SMOKING MEASURES AMONG CURRENT, PAST, AND NON-SMOKERS BASED ON NATIONAL HEALTH AND NUTRITION EXAMINATION SURVEY 2007-2012
Exviera E1, Liang Q1, Muhammad-Kah R2, Sarkar M2
1Virginia Commonwealth University, Richmond, VA, USA, 2Atria Client Services Inc, Richmond, VA, USA
OBJECTIVES: Assess the potential relationships between Biomarkers of Potential Harm (BOPH), specifically WBC, APO lipoprotein, C-reactive protein, HDL, LDL, total cholesterol, and tobacco biomarkers on smoking status, and cigarette exposure (CPD). While peer-reviewed data is preferential, incorporation of this grey literature into an evidence synthesis could lead to a more informed overview of clinical efficacy and thereby healthcare decision making.

PRM16
COMBINING MCDAs WITH ADVANCED STATISTICS TO TACKLE CHALLENGES OF DATA AND JUDGMENT UNCERTAINTY: CASE STUDY OF SAFETY ASSESSMENTS
Goethenafeur MM1, Wagner M2, Nikodem M3, Zylla A1, Micallef A1, Amblal B1
1Laser Analytica, Montreal, QC, Canada, 2Laser Analytica, Krakau, Poland, 3MedcitoSa, UK
OBJECTIVES: Comparative safety assessment can be challenging due to differences in safety profiles between comparators, scarcity of data, difficulty in establishing causality, and deficiencies in reporting. To address this, a method combining pragmatics of MCDM and advanced statistical methods is proposed. RESULTS: The method is used in safety assessments by pharmacologists and clinical and policy decisionmakers using a case study: The pragmatic MCDM model categorized adverse events (AEs) generically by their clinical characteristics. The method incorporates safety data sources in our evidence synthesis. Clinical trial protocols were used to identify definitions of endpoints included and to fulfil aspects of the critical appraisal. Fibrosis stage is an accepted treatment effect modifier in Hepatitis-C, our review therefore collected subgroup data for this. However, this was not readily available in peer-reviewed publications; we thus obtained data from EMA submission documents and UK and German reimbursement submissions. Other examples include a 2013 benchmark review on mortality and morbidity on Fey. The FDA website for three studies reporting cardiovascular-related death and for one study reporting overall death. CONCLUSIONS: Systematic reviewers should be aware of additional data sources that are published in conference proceedings. While peer-reviewed data is preferential, incorporation of this grey literature into an evidence synthesis could lead to a more informed overview of clinical efficacy and thereby healthcare decision making.

RESUMES:

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