situation 3; CIs cannot defined), the combination of the two proposed methods produced CIs as single dominant. CONCLUSIONS: We reviewed the evidence related to using the conventional methods to calculate ICIER CIs, and proposed new methods to address these. Proposed methods yield CIs that can be more easily interpreted. However, some issues remain that require further discussion.

PRM3 METHODOLOGY USING PHARMACY AND MEDICAL CLAIMS DATA TO EVALUATE REAL-WORLD OUTCOMES AND COSTS OF DISEASE MANAGEMENT IN THE CANADA: LCA AND IVF. We reviewed the evidence related to
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OBJECTIVES: To describe the methodology used to identify treatment cycles and determine real-world outcomes associated with the use of fetal-toxemia, follicle-stimulating hormone (FSH) versus FSH + human menopausal gonadotropin (hMG), using administrative claims data. METHODS: This retrospective study used the MarketScan® Claims Database to identify and compare IVF treatment protocols, pregnancy and birth outcomes among women aged 18–35 undergoing IVF between January 2009 and December 2012. Patients with < 1 claim for a gonadotropin-releasing hormone agonist (GnRHAg) or antagonist (GnRHAnt) (first cycle), and who sought emergency medical care for non-discretionary inputs can radically alter the efficiency scores and bias study results. The first stage score has ineffectiveness and the effect of non-discretionary outputs. Since both mean and standard deviation increased dramatically, simple normalization cannot be used as a proxy. Appropriate treatment of non-discretionary inputs is necessary to make meaningful comparisons to inform quality and policy interventions.

PRM3 IMPACT OF SINGLE RISK FACTOR CHANGES ON LONG-TERM OUTCOMES AND COST IN A TYPE 2 DIABETES MODELING STUDY CONTRASTING PROJECTIONS WITH UPKDFS, SWEDISH NATIONAL DIABETES REGISTRY AND THE ADVANCE RISK EQUATIONS. McWen F1, Lamotte M2, Foss V3 1Health Economics and Outcomes Research Ltd, Monmouth, UK, 2PM Health Consulting, Brussels, Belgium, 3University of California, San Diego, CA, USA
OBJECTIVES: Previous studies have investigated changes in risk factor (RF) variables on cost and outcomes in the IMS-CORE-Diabetes-Model (CDM) using UPKDFS-68 UK (http://www.medicaleconomics.com) and UPKDFS-82 risk factor (UK-48 RE). The aim of this study was to project health benefits and total lifetime costs (TLC) associated with a range of selected RF changes utilizing UK-68-RE versus recently implemented RE within the CDM. The Swedish-National-Diabetes-Registry (S-NDR) and the ADVANCE-Risk-Engine (ARE). METHODS: The CDM was applied to project the lifetime benefits (life years (LYs), quality adjusted life years (QALYs) and TLC per unit RF variation). RESULTS: When UK-68-RE were applied, projected changes in LYs were: 0.096, 0.045, 0.013, 0.071, -0.183 and 0.0 and QALYs: 0.156, 0.067, 0.051, -0.121 and 0.0 for RF variations in HbA1c, SBP, SM, TC, HDL and LDL, respectively. The compared to changes of 0.103, 0.032, 0.004, 0.070, -0.195, 0.044 (LYs) and 0.150, 0.049, 0.054, 0.050, -0.132, 0.025 (QALYs) utilizing S-NDR-RE and 0.103, 0.030, 0.001, 0.065, 0.048, -0.062 (LYs) and 0.048, -0.062 (QALYs) utilizing ARE-RE. TLC decreased by $347, $165, $69, $414, $2163, $0 (UK-68-RE), $2’829, $852, $81, $2’829, $910, $347 (S-NDR-RE) and $3’488, $1796, $-10, $182, $694, $0 (ARE-RE) for RF variations in HbA1c, SBP, SM, TC, HDL and LDL, respectively. CONCLUSIONS: The CDM produces a range which RF changes are translated into benefits and costs may change considerably dependent on the choice of selected RF.

PRM3 THE COST-OF-DRUG-RELATED MORBIDITY THAT LEAD TO EMERGENCY VISITS IN A BRAZILIAN HOSPITAL. Freitas O1, Baldinotto G2, Hughes D2, Hennek H1 1Universidade Federal de Rio Grande do Sul, Porto Alegre, Brazil, 2Bangor University, Bangor, UK
OBJECTIVES: To investigate the costs associated with the management of patients who sought emergency care due to MRMs. METHODS: This study was a retrospective analysis of patients’ medical records. 515 patients sought emergency services over a six-month period in a large teaching hospital in Brazil and those with DRM
were identified using a validated questionnaire. The direct medical costs of patient management were determined using a micro-cost analysis, and a sensitivity analy-
sis conducted using the emergency room visits rates due to DRM reported in the literature. All costs are presented in 2014 US$ (US$1 = R$2.70). RESULTS: 14.6% of patients sought emergency care due to DRM; 58.9% of DRMs were considered pre-
ventable. The mean treatment costs were US$612.38 ± 4.147 (range US$616.04 to 9.458). Mean inpatient length of stay of DRM patients was (5.7 ± 8 days). An extrapolation based on all 57.106 emergency visits in the last year resulted in annual total treat-
ment costs of US$717,713. A sensitivity analysis resulted in US$1,045,890 million in the best-case scenario and US$12,989 million at worst, per year. CONCLUSIONS:
This is one of the first analyses of the economic consequences of DRM in Brazil, and shows that DRMs leading to emergency visit and hospital admission are common and constitute an additional financial burden. The study emphasized the importance of improving pharmacotherapy and reduce preventable iatrogenic costs.

RESEARCH ON METHODS – Databases & Management Methods

PRM39
IS THE PREVALENCE OF ALZHEIMER’S DISEASE UNDERESTIMATED?
COMPARISONS AND CONTRASTS OF DIFFERENT APPROACHES IN ESTIMATING ALZHEIMER’S DISEASE
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OBJECTIVES: Estimating the prevalence of Alzheimer’s disease (AD) has been a chal-
lenge because it has been relying on self-proxy-reported information or based on diagnosis, diagnosis, medical profession, and pharmacy claims. We aimed to compare these databases and trace clinical condition of patients, enabling pharmacoeconomic and epidemiological studies that define effectiveness and efficiency of public policies and embedded technologies. As future work, it is important ensure the univocity of records.

PRM41
VALIDITY OF MEDICAID ANALYTIC EXTRACT (MAX)-2009, OUTPATIENT (OT) AND PROVIDER CHARACTERISTICS (PC) DATA FOR USE IN MENTAL HEALTH
RESEARCH
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OBJECTIVES: To assess the validity of Medicaid Analytic Extract (MAX)-2009, Outpatient (OT) and Provider Characteristics (PC) data for use in mental health
research. METHODS: Medicaid issue briefs, Medicaid managed-care enrollment report, MAX-PC evaluation reports and MAX-validation tables for the year 2009 were reviewed to assess the validity of MAX-OT and MAX-PC data. Validity of the data was defined in terms of availability (OT: substantial number of encounter claims; PC: substantial number of OT servicing provider IDs), completeness (OT: number of claims per PME, % enrollees with encounter record, number of claims per service user; PC: % provider IDs with primary taxonomy code) and usability (OT: primary diagnosis codes for procedure days generated per record). Each database was rated on these criteria as 1: Good, 2: Fair and 3: Poor for both OT and PC data and a total combined-score was calculated. The states with minimum total combined-score, which met all the criteria, were considered appropriate for research. RESULTS: Thirty-six states delivered all mental health services through managed care organizations (MCOs) and the rest relied on fee-for-service (FFS). Eleven states con-
tractions with comprehensive MCOs, 4 states contracting with behavioral health organizations (BHOs), and 6 FFS states have usable OT encounter data. PC data was available for all 51 states, of which 15 states have usable data with >90% claims with OT billing/services provider IDs. Twelve of these states have data with >75% provider IDs with primary taxonomy codes. Three comprehensive MCO states (NY, NJ, CT) met all the validity criteria for OT and PC files. CONCLUSIONS: Although, most states provide mental health services through comprehensive MCOs, OT-encounter data for these services is available in limited states only. Researchers should exercise caution while combining OT and PC data for mental health research.

PRM43
DEVELOPMENT OF A DATABASE OF PUBLISHED REGULATORY RECOMMENDATIONS CONCERNING THE USE OF CLINICAL OUTCOME ASSESSMENT (COAs) IN DRUG DEVELOPMENT: OUTCOMES INSIDE PERI-Clinical, Robusta da Chiesa M
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OBJECTIVES: As defined by the FDA, a Clinical Outcome Assessment (COA) directly or indirectly measures how patients or function and can be used to determine whether or not a drug has demonstrated to provide a treatment benefit. There are four types of COAs: patient-reported (PRO), observer-reported (ObR0), clinician-
reported (ClinR0), and performance outcomes (PerR0). The aim of this research is to create a comprehensive database of regulatory requirements concerning the use of COAs to determine treatment benefit and to inform public health and technology assessment (HTA) review. METHODS: All clinical guidelines published from 1977 to 2014 by North American regulatory authorities (FDA and Health Canada), the European Union (EMA), and NICE, were retrieved on the corresponding websites and reviewed. The information was categorized as follows: guideline title, date of publication, guideline status (‘draft’ or ‘final/adopted’), therapeutic area and indication, and criteria (e.g., ICD-10 classification, guideline purpose(s)), and for each COA, the concept of interest and context of use (e.g., target patient population, endpoint positioning and study design). RESULTS: For the EMA, we reviewed 310 scientific guidelines representing 56 therapeutic indications. More than half recommend COA endpoints. For Health Canada, five guidance representing five therapeutic indications were not retrieved. The 96 recommendations published by the NICE correspond to 75 ther-
peutic indications, and are currently under review. CONCLUSIONS: This project will be a unique source of centralized information about how COAs are recommended by regulatory authorities in drug development and HTA review. It will be useful to observe the current trends in COAs recommended, and to integrate them as early as possible in the product development. The database will be available online in an independent website, with access by subscription.

PRM44
A VIRTUAL DATABASE TO MEASURE COSTS ASSOCIATED WITH COMORBIDITIES AMONG PATIENTS WITH CHRONIC HCV
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OBJECTIVES: Healthcare resource utilization and costs are often measured by ret-
rospective claims analyses. Using a common data model (CDM) with standardized variables has the ability to enhance robustness and generalizability of data and improve the timelines of these studies. Given the rapidly changing treatment land-
scape for HCV, it is a prime candidate for research based on a CDM. The purpose of this study was to analyze healthcare resource use and costs by comorbidity status in patients with chronic HCV using a virtual database based on a CDM. METHODS: A virtual database was created commercially and cost modeling was performed using specifications developed by Observational Medical Outcomes Partnership (OMOP) CDM v4 format (www.omop.org/CDM). By employing a massively parallel processing architecture, the database was standardized to enable the study. RESULTS: Results from two of the databases (commercial/Commercial, commercial/Commercial) represented more than 212,000,000 covered lives yielded information for 97,935 patients with chronic HCV (n=46,384 for database 1; n=51,551 for database 2). Baseline demographics were similar between the databases. Slightly less than 10% of patients had compensated cirrhosis, approximately 5% had compensated cirrhosis, and transplant percent-