termination. CONCLUSIONS: Clinical trial learning curves have significant implications for outcomes research accuracy, patient safety, and overall trial success. Clinical trial simulation may provide a broadly applicable methodology for addressing several factors associated with clinical trial learning curve effects and for improving the accuracy of clinical trial outcomes.

PHP75
USE OF ELECTRONIC MEDICAL RECORDS FROM 2001 THROUGH 2010: IMPLICATIONS FOR COMPARATIVE EFFECTIVENESS RESEARCH

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OBJECTIVES: Recent developments in the United States (US) health care reform and funding for comparative effectiveness research suggest that use of electronic medical records (EMR) for outcomes research may increase over time. EMR can be particularly useful when outcomes are not well-defined with diagnosis or procedures codes or when clinical data are needed. The objective of this study was to review trends in the use of EMR during the past decade. METHODS: A review of published literature was conducted in PubMed for years 2001 through 2010 to identify studies in the US that used EMR. Internal quality assurance studies and validation studies that used EMR were excluded. The number of studies, setting of care, population, whether the study was comparative, and any noted limitations were examined. RESULTS: A total of 58 EMR-based, outcomes studies in the US were identified over the past decade; increasing from 3 in 2001 to 12 in 2010. The majority of studies included outpatient EMR. Studies included a variety of patient populations with over one-third in cardiovascular disease, psychiatric disease, and diabetes combined. The percent of studies that were comparative ranged from 0% in 2001 to 45% in 2010. Measures of effectiveness varied widely and included lab values, clinical measures, and health-related quality-of-life outcomes. Some noted limitations on the use of EMR data in outcomes research included lack of representativeness of all care delivered across practice settings, lack of generalizability and study population, and reliance on health care provider reporting. CONCLUSIONS: Although the use of EMR in outcomes research has increased slowly in the past decade, the proportion of comparative studies using EMR has increased over time. As the industry works to standardize EMR and more advanced outcomes are collected in EMR systems, EMR data may play a larger role in comparative effectiveness research.

PHP76
THE OUTLOOK OF LARGE SIMPLE TRIALS FOR COMPARATIVE EFFECTIVENESS RESEARCH: AN APPLICATION OF THE PRECIS FRAMEWORK

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OBJECTIVES: In recent years, comparative effectiveness research (CER) has gained increasing interest and investment across major life science and health policy stakeholder groups: regulators, biopharmaceuticals, physicians, patients, and payers. One method, large simple trial (LST), a hybrid of observational cohort study and randomized control trial (RCT), is designed for large numbers of patients in post-approval research and is a choice study design for comparing the relative strengths and weaknesses of medical interventions. The objective of this paper was to evaluate the feasibility of LSTs to capture the effectiveness of new drugs in the CER. METHODS: A structured abstract review and funnel analysis was conducted using data available through ClinicalTrials.gov. Using the search terms, “phase IV”, “post-marketing”, “randomized”, and “multi-centered”, 2230 clinical trials were filtered with restricted parameters for number of patients (n > 1000), evidence of blinding, stated objective of comparative effectiveness, and date of trial initiation. RESULTS: To gain a perspective on current and future outlook, only trials initiated between 2009 and 2010 (n = 10) were assessed in this phase of study. Using the Pragmatic Exploratory Continuum Indicator Summary (PRECIS) framework originally developed for pragmatic trials, the analysis revealed an important theme. When applying key domain criteria – practitioner expertise, treatment flexibility, eligibility criteria, health outcomes, study duration, intent-to-treat (ITT), and primary outcome analysis, as defined by the PRECIS framework – less than 50% of the LST CER trials were designed to measure effectiveness, as opposed to efficacy. CONCLUSIONS: According to findings, there has been an uptake on the use of LSTs in investigating the relative effectiveness of interventions. However, considering the increase in governmental pressure to reduce healthcare spending by improving quality of treatment, it is important that these LSTs are conducted to truly capture effectiveness. For that reason, there is need for further research to extract and develop new frameworks for evaluation.

PHP77
THE STATE OF HEALTH ECONOMICS AND PHARMACOECONOMICS RESEARCH IN RUSSIA: A SYSTEMATIC REVIEW

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OBJECTIVES: To investigate the state of health economics research in Russia available in the English language by describing the number and characteristics of the articles, and assessing the quality of these articles. METHODS: The study assessed the state of health economics and pharmacoeconomics research in Russia. We conducted a literature search to identify health economics articles pertaining to Russia. Each article in the final sample was scored by two reviewers independently using the data-collection form designed for the study. RESULTS: In total, 16 studies investigating a wide variety of diseases were included in the study. These articles were published in 15 different journals all based outside of Russia between 1994 and 2009. On average, each article was written by seven authors. Most first authors had medical/clinical training and resided in the USA (n = 8) at the time of publication of the study. Based on a scale of 1–10, with 10 indicating the highest quality, the mean quality score for all studies was 8.09 (SD = 1.29) and 55% of the articles were of fair quality (score 5–7). The quality of articles was statistically significantly related (P < 0.05) to the primary health intervention (pharmaceuticals > non-pharmaceuticals) and primary training of the first author (medical > non-medical). CONCLUSIONS: The conduct of health economics and pharmacoeconomics research in Russia in the English language is limited and, on average, the published articles were of good quality. However, about one-quarter of published articles were of fair quality. More health economics research in English is warranted in Russia.

PHP78
CHARACTERISTICS OF HOMELESS INDIVIDUALS USING INPATIENT AND EMERGENCY DEPARTMENT SERVICES

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OBJECTIVES: This study compares the patient characteristics, insurance coverage, disease prevalence, and utilization patterns of inpatient and emergency department (ED) services between homeless and non-homeless people using a new data source that has not been employed in existing studies. METHODS: A retrospective data analysis was conducted to compare differences in patient characteristics, insurance coverage, disease prevalence, and utilization patterns between homeless and non-homeless individuals who visited a hospital or hospital-based emergency department for each service type, separate rates were created for homeless and non-homeless populations and then compared. The Healthcare Cost and Utilization Project (HCUP) State Inpatient Databases (SID) and State Emergency Department Databases (SDED) for 2008 were used in the analysis. The SED included in this study include 15.9 million inpatient hospital discharges from community hospitals in ten states – Arizona, California, Colorado, Florida, Georgia, Massachusetts, Michigan, New York, Pennsylvania, and Texas. CONCLUSIONS: The study included 3.7 million visits to ED, where patients were treated and released, from seven states (i.e., Arizona, Florida, Georgia, Massachusetts, Missouri, New York and Wisconsin). 59.5% of these visits were homeless patients. RESULTS: The uninsured homeless (non-homeless) patients were accountable for 28.1% (4.6%) of inpatient admissions and 42.8% (21%) of ED visits. Medicaid covered 48.2% of all inpatient discharges and 34.7% of all ED visits by homeless patients. 73.5% (50.6%) of homeless (non-homeless) inpatient admissions came through EDs. Homeless patients with mental disorders ordered accounted for 22.6% of all homeless inpatient discharges and 49% of all homeless ED visits. A majority of the mental disorder diagnosis in both settings of care were alcohol-related disorders, mood disorders, and schizophrenia. CONCLUSIONS: The profile of homeless and non-homeless patients differed significantly by insurance status and by race in both the inpatient and emergency department settings.

PHP79
ROLE OF HTA SYSTEMS IN REIMBURSEMENT AND MARKET ACCESS: COMPARISON OF TURKEY AND POLAND

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OBJECTIVES: Health economies outside Western Europe are increasingly adopting evidence-based decision-making, but implementation methods differ. Commonly used techniques include HTA and cost-effectiveness approaches taken in Turkey and Poland nevertheless illustrate the role of a previously developed reimbursement process in the adoption of HTA. Insights from this comparison may have implications for industry, government and private reimbursement authorities worldwide. METHODS: Turkey and Poland were selected for comparison due to their relatively recent adoption of HTA within an established reimbursement system. A total of 18 stakeholders were interviewed via telephone interviews to understand current and future utilisation of HTA in reimbursement. The study evaluated the impact of the following decision-making domains: cost-effectiveness differentiation, prioritisation of unmet needs, price, and presentation requirements (e.g. budget impact analysis). A comparison was then made on a rating scale devised to account for these influencing factors. RESULTS: In Turkey the pharmaceutical economics unit of the Social Security Institute is responsible for reimbursement. However, with Polish HTA body AHTAPol is more directly involved in the HTA process. All 9 Polish respondents scored high on the influence of HTA in access decisions while just 2 respondents in Turkey considered HTA to be extremely influential in reimbursement. However, pricing decisions in both countries are based on international referencing to varying degrees. CONCLUSIONS: Despite superficial similarities in the structure of their reimbursement systems, HTA in Poland is more closely integrated with decision making than in Turkey. At present HTA plays a formal role in the Turkish system but a negotiation-based approach remains to customary channel for value arguments. However, the rapid pace of change in the Turkish reimbursement system suggests the need for further ongoing research.

PHP80
RELATIONSHIP OF HERBAL MEDICATIONS TO ATTITUDE FORMATION AMONG FUTURE PHARMACISTS

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OBJECTIVES: Trends in the use of herbal medications continue to rise. Pharmacists have an opportunity to provide consumers with evidence based information. This study examined pharmacy student’s knowledge regarding herbal medication from...
courses and the associated outcomes towards attitude formation. METHODS: In a cross-sectional prospectively designed study a survey was self-administered to second, third and final year doctorate of pharmacy students at a University with diverse student body. The questionnaire included four sections: attitude, education, knowledge and demographic. Pre-validated instruments were used to measure attitude towards herbal medications using a five-point likert scale while knowledge was measured using a true-false scale. Descriptive statistics were used to summarize data and multiple logistic regression was conducted to assess the effects of the various herbal medications knowledge towards attitude formation while controlling for age, race, sex, year of study, work experience and herbal medication related courses. RESULTS: Of 206 students, 159 completed the survey (response rate of 77.18%). Mean age of participants was 26 (±3.2) years with 65.41% female and 81.13% had previous pharmacy work experience. The average score of herbal knowledge was 9.28 (±1.80) (maximum score of 15). Students with higher knowledge had positive attitude towards herbal medications (OR=1.26, 95% CI=1.01-1.57). Students with work experience had positive attitude towards herbal medications (OR=2.93, 95% CI=1.05-8.14). However, 81% students believed that they did not have sufficient knowledge of herbal medications and 91% students reported that they needed more information. CONCLUSIONS: Higher knowledge leads to a positive attitude towards herbal medications among pharmacy students indicating that they may recommend such products to patients. Evaluating the role of such recommendations to improve patients health outcomes is the direction for the future.

PHP81

CAREGIVER WELL-BEING AND HEALTH CARE ACCESS AND QUALITY AMONG CHILDREN WITH CHRONIC PHYSICAL AND MENTAL CONDITIONS

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OBJECTIVES: The well-being of caregivers of children with chronic conditions can be influenced by several aspects of their child’s care and their complex healthcare needs. The objective of this study is to examine well-being and experiences of caregivers of children with different chronic conditions. METHODS: The study was cross-sectional in nature and responses of caregivers of 53,423 children (age ≤17 years) from the National Survey of Children’s Health, 2007. We created a hierarchy of chronic conditions to classify children from our analytic sample in 6 mutually exclusive groups: Autism Spectrum Disorder (ASD), Developmental delay/Learning disability, Attention deficit hyperactivity disorder/behavioral problems, Depression/anxiety, Speech/hearing/visual problems, and Diabetes/asthma. We assessed caregiver well-being in three dimensions: physical health, mental health, and emotional stress. Healthcare experiences were measured in two domains: Access (health insurance adequacy and consistency, and unmet healthcare needs), Quality (family-centered care, and effective care coordination ECC). All analyses were adjusted for the for the complex survey design, to derive national estimates. Chi-square tests, logistic and multinomial logistic regressions were performed in SAS 9.2. RESULTS: Physical health of caregivers was negatively affected by access to care (unmet needs) and healthcare quality (lack of FCC). And poor mental health was negatively associated with lack of ECC. As compared to caregivers of children with asthma/diabetes, a higher percentage of caregivers with ASD children reported poor physical health (26.6% vs 12.7%), poor mental health, and high emotional stress (26.5% vs 2.1%). CONCLUSIONS: Child’s ASD places significant burden on the caregiver well-being, compared to other conditions. In addition to the type of child’s disability and chronic condition, caregivers were at high risk for poor physical health and high emotional distress due to unmet needs for children’s health and lower levels of the child’s healthcare quality.

PHP82

THE IMPACT OF INTEGRATED MEDICAL CARE SERVICES FOR LOYAL PATIENTS IN A LARGE SECONDARY MEDICAL CENTER UNDER TAIWAN’S UNIVERSAL HEALTH INSURANCE PROGRAM

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OBJECTIVES: With very few restrictions on choosing physicians under National Health Insurance (NHI) program in Taiwan, patients could visit outpatient department (OPD) in a tertiary medical facility to seek the primary care other than secondary care. This study was to examine the impact of Integrated Medical Care (IMC) services in China Medical University Hospital (CMUH), a 2000-bed medical center, in Taiwan. METHODS: Those patients who made more than 50% of their total OPD visits in Taichung toward CMUH during January 2008 to June 2009 (baseline period) were recognized as CMUH loyal patients. They were invited to utilize the offered pluralistic IMC services, including integrated, geriatric and pharmaceutical care clinics, in addition to usual primary and specialty clinics, during December 2008 to December 2010 (implementation period). Those who used not to visit one or two specialties of the CMUH made up of the most interested in the medication utilization evaluation (MUE) systems were established to facilitate the cooperative physician-clinician pharmacist medication therapy management model. The medical and medication-related issues were reviewed by prescribers, clinical pharmacists, and other clinical MUE team as needed. The clinical pharmacists and the clinical MUE team as needed. The differences of medical expenditures reimbursed by NHI, OPD visits, number of prescribed medication (Rx) and emergency department (ED) visits in CMUH during baseline and implementation periods were examined. RESULTS: Of 11,902 loyal patients, 75% made visits toward one or two specialties and other. The medical expenditures, OPD visits, ED visits reduced 2.4%, 4.8% and 6.3% per person per month, respectively, but the number of Rx increased 0.2%. The differences of the health resources utilization were reduced from the first to fourth quarter of implementation period. CONCLUSIONS: There were positive outcomes of offering pluralistic IMC services. However, the specific outcomes were emphasized more toward those who visited more than three specialists.

Health Care Use & Policy Studies – Health Technology Assessment Programs

PHP83

HTA DECISION DRIVERS FOR ACCEPTANCE OF HIGH ICER SUBMISSIONS AND REJECTION OF LOW ICER SUBMISSIONS

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OBJECTIVES: HTA aims to accept or reject technology appraisal submissions based on the ICER estimated from cost-efficacy models. The objective was to investigate reasons provided by three Health Technology Assessment authorities for acceptance of high ICER submissions (commonly assumed threshold below £30,000) and rejection of low ICER submissions (commonly assumed threshold below £30,000). METHODS: All published technology appraisals since April 2005 were downloaded from PBAC, SMC, and CADTH, websites. The manufacturer’s base-case ICERs were extracted. Decision criteria provided by the agencies were extracted from the technology appraisals which were rejected despite a low ICER or accepted despite a high ICER. RESULTS: The CADTH accepted 14 high ICER submissions; 71% owing to stated clinical effectiveness, including 42% on the basis of restriction and 15% restricted duration. The PBAC accepted 26 high ICER submissions; 53% owing to stated cost-effectiveness, 30% with restriction, and 19% with a risk sharing agreement. Two ICER submissions were rejected despite a high ICER. The SMC rejected 62 low ICER submissions; 34% owing to a lack of demonstrated clinical benefit. PBAC rejected 48 low ICER submissions; 73% owing to lack of demonstrated clinical benefit, 40% owing to uncertainty in the economic model, and 27% owing to an unacceptably high ICER. The SMC rejected 62 low ICER submissions; 34% owing to a lack of demonstrated clinical efficacy, 71% owing to lack of a robust economic analysis, and 31% owing to cost-effectiveness not being demonstrated. CONCLUSIONS: Aside from a demonstration of clinical and/or cost-effectiveness, high ICERs were accepted on the basis of a restriction to certain patient groups, price reduction, or owing to orphan drug status. Low ICER submissions were rejected on the basis of uncertainty or lacking clinical benefit, uncertain model estimates, or a lack of appropriate analysis.

PHP84

AHRQ VERSUS NICE: DO THE CONCLUSIONS IN CER REPORTS CORRESPOND CLOSELY TO THE COMPARATIVE EFFECTIVENESS ASSESSMENTS MADE IN HTA REPORTS?

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OBJECTIVES: While non-US agencies such as NICE (National Institute for Health and Clinical Excellence) in the UK have been conducting Health Technology Assessments (HTAs) for over ten years, Comparative Effectiveness Research (CER) as conducted in the US is relatively recent. The lack of economic considerations is one well-known distinction between CER and HTA. The aim of this research is to compare CER publications from AHRQ (Agency for Healthcare Research and Quality) with HTA-related publications from NICE to determine whether there are other consistent, clear distinctions of note. METHODS: All 22 AHRQ CER publications published from the National Institutes of Health website were assessed alongside HTA publications relating to the comparative effectiveness of pharmaceuticals on major clinical outcomes were compiled. The NICE website was searched for corresponding HTA guidance, and conclusions and other features of the publications were compared. RESULTS: Of the 14 AHRQ CER publications that assessed pharmacotherapies, for only two of these were there corresponding NICE HTAs. The CER publication on Rheumatoid Arthritis and Psoriatic Arthritis corresponded to two NICE HTAs, which were both in general agreement with the CER report. In contrast, the conclusion from an AHRQ publication on Lipid-Modifying Agents stated that there was insufficient clinical evidence to guide decisions, whereas NICE was confident enough in the evidence to make a subsequent access decision. In its Clinical Guideline (CG) documents NICE also provided statements relevant to three other AHRQ CER report topics, most notably on the AHRQ CER report on statins. The most notable distinctions between CER and HTA reports, however, were in their scope, breadth, and purpose. CONCLUSIONS: Where like-for-like comparisons were possible, this research found more agreement than disagreement between AHRQ and NICE. The major distinctions of note related to the topics chosen for assessment by the agencies, which reflect differences in patient needs and sizes for the health systems.

PHP85

APPLYING FUZZY MULTIPLE CRITERIA DECISION MAKING TO ESTABLISH A NEW HEALTH TECHNOLOGY ASSESSMENT SYSTEM WITH COVERAGE IMPLICATIONS IN TAIWAN NATIONAL HEALTH INSURANCE

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OBJECTIVES: It became obvious that all countries consider health technology assessment (HTA) differently due to the structure of individual health systems. The objective of this study was to establish and select a new, proper HTA system in Taiwan National Health Insurance. METHODS: A systematic literature review was undertaken to identify relevant papers of each of short tandem polymorphism analysis, positron emission tomography, photodynamic laser therapy and video-assisted thoracic surgery and then used focus group discussion to select category’s