financial constraints and fasting purposes. Keywords: Breakfast, undergraduates, associated factors.

PHP185

THE ASSOCIATION BETWEEN MULTIMORBIDITY, SOCIOECONOMIC FACTORS, AND MULTIMORBIDITY-RELATED EXCESS HEALTHCARE USE - RESULTS FROM THE 2014 NATIONAL HEALTH INTERVIEW SURVEY

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OBJECTIVES: In a context of increasing aging of the population and rising number of chronic diseases, it is crucial to better understand multimorbidity and its impact. We measured the association between multimorbidity and socioeconomic factors, self-reported health status, and functional impact. Additionally, we measured the excess healthcare use (HCRU) related to multimorbidity. **METHODS:** Our sample included all people aged above 15 years old from mainland Portugal (7,944 men and 10,260 women) who participated in the fifth Portuguese National Health Interview Survey, conducted in 2014. We considered the following chronic conditions: hypertension, diabetes, coronary disease, stroke or myocardial infarction in the previous year, arthrosis, chronic back or neck pain, chronic obstructive pulmonary disease, asthma, allergy, kidney disease, urinary incontinence, liver cirrhosis, and depression. Multimorbidity was measured by the presence of two or more of these self-reported conditions. Linear/logistic regression models were used to assess the association between number of chronic diseases/multimorbidity and relevant factors. **RESULTS:** Overall, 42% of participants reported multimorbidity. The likelihood of having multimorbidity increased with age (OR:1.30, 95%CI:1.27-1.33) and female gender (OR:1.90, 95%CI:1.69-2.14). The number of chronic conditions and multimorbidity were associated with lower educational level, lower income, worse self-rated health status, and lower functional capacity. In addition, participants with multimorbidity reported higher HCRU, namely general practice appointments (86.9% vs. 66.5%; p<0.0001), specialist appointments (58.6% vs. 40.5%; p<0.0001), and hospital admissions (6.1% vs. 3.1%; p<0.0001) in the previous 12 months, compared with those without multimorbidity. We observed a 25% increased risk of hospitalization per additional comorbidity (OR:1.25, 95%CI:1.20-1.29). **CONCLUSIONS:** Multimorbidity is associated with key socioeconomic factors, worse health status and reduced functional capacity. It also seems to generate greater healthcare consumption, particularly hospitalizations. Given the expected rise of this condition, health systems should prioritise patients with multimorbidity as well as those at higher risk, given the identified factors.

PHP186

THE COMPARISON AMONG DIFFERENT COUNTRIES' EQ-5D-5L VALUE SETS APPLIED IN CHINESE GENERAL POPULATION

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OBJECTIVES: EQ-5D-5L value sets have been estimated in several countries: China, Korea and Canada etc. The value sets can be used to generate utility in both general population and disease population. The object of this work is to study the difference of health utilities calculated by China and six other countries' EQ-5D-5L value sets (Dutch, Spain, England, Uruguay, Korea and Canada) which are applied in Chinese general population, and to explore the cross-cultural adaptation of different EQ-5D-5L value sets. **METHODS:** In this study, the difference of health utilities among 7 countries' EQ-5D-5L value sets applied in Chinese general population were analyzed. **RESULTS:** Among the 371 participants who were face-to-face interviewed in Nanjing, China, 241 have completed the EQ-5D-5L questionnaires. The mean health utility calculated by China value set is the second highest (0.963), while the highest and lowest is Uruguay (0.983) and Korea (0.935), respectively. In terms of the difference in mean utility regarding sex and samples with or without chronic diseases, conclusions are consistent. The variation of utility is biggest in Dutch (0.505~1), while Uruguay is the smallest one (0.800~1). When it comes to China (0.647~1), it just has a larger utility range than Dutch and Canada (0.620~1). **CONCLUSIONS:** The estimation of EQ-5D-5L value sets are based on local people's health preference and affected by culture, social environment, as well as economic development. China value set of EQ-5D-5L is available now, it's more appropriate to apply it in Chinese general population.

PHP187

PREFERENCES OF THE GENERAL PUBLIC FOR REIMBURSEMENT CRITERIA FOR EXPENSIVE DRUGS: A MULTI CRITERIA DECISION ANALYSIS FOR RITUXIMAB AND BEVACIZUMAB

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OBJECTIVES: Policy makers increasingly have to make complex reimbursement decisions involving making trade-offs between multiple potentially conflicting criteria. This study aims to assess the general public's preferences for reimbursement criteria for two expensive drugs by means of multi criteria decision analysis (MCDA). **METHODS:** MCDA was conducted for rituximab in rheumatoid arthritis (RA) and non-Hodgkin lymphoma (NHL) and bevacizumab in metastatic breast cancer (MBC) and non-small cell lung cancer (NSCLC). Criteria selection was based on a literature review and included health economic-related criteria (costs per patient per year, quality of life, budget impact, life prolongation and side-effects) and other criteria (availability of alternatives, disease severity, and disease rarity). Preferences were elicited using the swing weighting method. Respondents were recruited through social media and our personal network. Overall scores (0-1 scale) were calculated per alternative by multiplying standardized performance scores with standardized criteria preferences. **RESULTS:** Based on the respondent's (n=143) criteria preferences, the reimbursement criterion quality of life ranked highest (0.81), followed by life prolongation (0.69), disease severity (0.68), availability of alternatives (0.67), and side-effects (0.59). Costs per patient per year (0.58), budget impact (0.49) and disease rarity (0.45) ranked lowest. Rituximab in RA and NHL attained the highest overall score (0.60 and 0.52 respectively) and bevacizumab in MBC and NSCLC the lowest (0.46 and 0.40 respectively). The overall score of rituximab in RA was mainly attributable to high performance scores for disease severity, side-effects, and costs per patient per year. **CONCLUSIONS:** MCDA can facilitate reimbursement decision making as it quantifies both an overall score of each alternative and the relative importance of multiple criteria. This study shows that disease burden and unmet need were valued more importantly than cost-criteria. This information may support policy makers in making trade-offs between potentially conflicting criteria in reimbursement decision making for expensive drugs

PHP188

COMPARATIVE EFFECTIVENESS AND SAFETY OF MEDICAL ABORTION FOR SECOND-TRIMESTER PREGNANCY TERMINATION: A SYSTEMATIC REVIEW AND NETWORK META-ANALYSIS

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OBJECTIVES: Unsafe abortion is one of major causes of illness and death of pregnancy. Medications for second-trimester abortion had been investigated, but the optimal regimen had not been specifically compared. **METHODS:** We performed a systematic review and network meta-analysis by including randomized controlled trials (RCTs). The following databases were searched: Medline (PUBMED), EMBASE, Cochrane Central Register of Control Trials, CINAHL (EBSCO), Web of science, WHO trial registry and ClinicalTrial.gov, up until Dec 31, 2015. Studies of medical abortions for second-trimester pregnancy were included. The primary outcome was success abortion within 24 hours. This study was registered with PROSPERO (CRD42015026888). **RESULTS:** We identified 1136 studies from searching, 56 randomized controlled trials were included. Regarding to the second-trimester pregnant 7636 patients, which had social or medical indication to terminate pregnancy were included in this analysis. Form network meta-analysis, that oral mifepristone then buccal misoprostol found the highest efficacy (RR 2.75, 95%Cl 2.07-3.66, P <0.001, SUCRA 92.8%). For adverse event (severe bleeding), vaginal gemeprost showed the highest safety (RR 6.65, 95%Cl 0.35-124.98, P =0.206, SUCRA 81.5%). Comparing efficacy and safety together, oral mifepristone 200 mg then buccal misoprostol 400 mcg every 3 hours had the highest efficacy and safety. **CONCLUSIONS:** Oral mifepristone 200 mg then buccal misoprostol 400 mcg every 3 hours was the best treatment option in medical abortion regimens for second-trimester pregnancy termination due to its most efficacy and safety profiles. Before clinical implication, further large randomized clinical trials are warranted.

PHP189

EVALUATING HEALTH IMPACT OF COMMON CHRONIC CONDITIONS ON QUALITY OF LIFE OF EQ-5D-3L IN OLDER CHINESE

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OBJECTIVES: This study aimed to estimate the loss of health-related quality of life (HRQOL) associated with common chronic conditions in older Chinese population. **METHODS:** Weitang Geriatric Diseases Study is a community-based health survey on 5,557 Chinese aged 60 years or older. The study population was measured with EQ-5D-3L for HRQOL assessment. We also assessed the coexisting chronic conditions of depression, cognitive dysfunction, stroke, heart disease, diabetes, hypertension, obesity, hyperlipidemia and visual impairment based on self-completion questionnaires, biomarkers and medical records. Ordinary Least Square regression was performed to model the relationship between the conditions and the EQ-5D-3L index scores. The robust standard error (RSE) estimator was adopted to calculate 95% confidence interval (CI) for parameter coefficients. **RESULTS:** The mean EQ-5D-3L representing overall HRQOL was 0.954 (standard deviation: 0.081) with 70% of participants reporting full health. After controlling for socio-demographic characteristics and comorbidities, depression, stroke, heart disease and cognitive dysfunction had significantly adverse impact on the EQ-5D index score. The respective coefficients (95% CI) of each condition were -0.191 (-0.233, -0.150), -0.052 (-0.086, -0.019), -0.019 (-0.029, -0.010), and -0.016 (-0.024, -0.008). **CONCLUSIONS:** Chronic conditions were found to contribute to HRQOL loss in older Chinese population. The utility and utility decrement estimated can be used for quality-adjusted life-year calculation.

PHP190

COMPENDIUM OF METHODS FOR MEASURING PATIENT PREFERENCES IN MEDICAL TREATMENT

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OBJECTIVES: Patient preference studies are taking on an increasingly important role in the medical product lifecycle. While there are numerous industry, academic, regulatory and patient group efforts addressing standards, quality and proper application of preference studies, there is limited understanding of the range of methods to assess preferences and the trade-offs between them. To develop evidence-based recommendations to guide different stakeholders on how and when patient preference studies should be performed, we developed a comprehensive overview of patient preference exploration and elicitation methods. **METHODS:** We used a three-step approach to identify existing preference exploration (qualitative) and elicitation (quantitative) **METHODS:** 1) listing methods identified in previous preference method reviews; 2) conducting a systematic literature review on 4,572 unique papers

identified through multiple scientific databases, using English full-text papers published between 1980 and 2016; and 3) having discussions with international experts (N=14) in the field of health preferences and/or medical decision making to validate the methods found. **RESULTS:** We identified 32 unique preference Methods: 10 exploration and 22 elicitation methods. Consensus was reached among the experts interviewed to cluster exploration methods in three main groups: "Individual techniques", "Group techniques" and methods that were both "Individual and Group techniques". Elicitation methods were clustered in four groups: "Discrete Choice Based related techniques", "Indifference Choice Based related techniques", "Rating related techniques" and "Ranking related techniques". **CONCLUSIONS:** This study identified 32 unique methods for exploring and measuring patient preferences, and reached consensus in clustering the methods. This compendium is a resource for researchers in the patient preference field and also serves as the basis to conduct additional studies that appraise the methods and determine which methods are most appropriate for measuring patient preferences in which phase of the medical product lifecycle to support patient-centric decision making.

PHP191

MINIMALLY IMPORTANT DIFFERENCE: EMPIRICAL COMPARISON OF ESTIMATION METHODS USING ORTHOPAEDICS AND OTOLARYNGOLOGY

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OBJECTIVES: The concept of minimally important difference (MID) is defined as the smallest change on a patient-reported outcome (PRO) questionnaire that a patient considers meaningful. There is currently little guidance on selecting the appropriate MID method or for interpreting MID results. In addition, studies rarely differentiate between effect-size-based (MIDE) estimates, which can be used for sample size determination, and observed-change-based (MIDC) estimates which can be used for interpreting changes in scores. This study compared MID estimation methods in two PROs to provide empirical evidence on the 1) efficiency of different MID estimation methods, 2) the difference between MIDE and MIDCestimates, and 3) the relative magnitude of MID estimates across different PROs. **METHODS:** This study was a retrospective analysis of observational data from patients undergoing elective surgery for chronic rhinosinusitis or end-stage ankle arthritis. The PROs investigated were the Sino-Nasal Outcome Test (SNOT-22) and the Ankle Osteoarthritis Scale (AOS). The study applied three distribution-based MID methods and three anchor-based MID methods. Bootstrap 95% confidence intervals were used to assess efficiency. **RESULTS:** 123 patients were included for the SNOT-22 and 238 patients were included for the AOS. MIDE estimates were much smaller in magnitude than MIDC estimates for both the SNOT-22 and AOS. MIDC estimates were similar for both instruments. The mean change method produced the widest confidence intervals for both the MIDE and MIDC. **CONCLUSIONS:** Because it produces unstable and inefficient estimates, the popular mean change method should be discontinued in favor of regression-based methods that use the entire study sample. This study found a two-fold difference between MIDE and MIDC estimates – therefore, studies should clearly differentiate between measurement objectives. Consistent with previous research, one-half standard deviation and the standard error of measurement most closely matched anchor-based methods for MIDE.

PHP192

THE FRENCH COMPASSIONATE PROGRAM "TEMPORARY AUTHORIZATION FOR USE" AND THEREAFTER… HOW CAN IT AFFECT DRUG MARKET ACCESS?

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OBJECTIVES: "Temporary Authorization for Use" (ATU) is a French compassionate program allowing the use of drugs before their marketing authorization (MA). Only hospital pharmacies are allowed to deliver these drugs, even for outpatients. After the MA, the reimbursement is maintained during the HTA assessment and national agreements on reimbursement and price. This period, so-called "post-ATU" and that has been reframed in 2014, should not excess 180 days as it sustains a "free pricing window" for pharmaceutical companies. The aim of this study is to assess the economic impact of the post-ATU period from the hospital perspective and to identify the determinants of its duration. **METHODS:** We included all drugs that have been through the post-ATU process since 2014. We censured data in May 2017. The financial impact was calculated for the 37 public hospitals of Paris (AP-HP), the largest university hospital in France. We conducted univariate analyses between potential explicative variables and wait time to obtain price and reimbursement. Drugs prices were based on APHP's acquisition prices. **RESULTS:** 62 International Nonproprietary Name (INN) have been through the post-ATU period, among which 26 are still on the post-ATU list. In 2016, post-ATU expenditures have totalized €85.2 million for AP-HP (8,4% of APHP's drug global budget). The post-ATU period has lasted 469 days in average (median: 446; min: 92; max: 1064). Only 1 INN has respected the regulatory deadlines. There is a significant correlation between increasing of post-ATU duration and orphan drugs status (p value = 0.01). There is no correlation with therapeutic areas, and surprisingly, no correlation with drug prices. **CONCLUSIONS:** Post-ATU drugs represent an important financial burden for hospitals whereas these drugs are still under a derogation procedure. Results showed the difficulty to sustain innovation without create perverse effects as the duration found here is largely higher than usual delays of negotiation.

PHP193

ESTIMATING THE REFERENCE ICER FOR AUSTRALIA AND PUBLIC PERCEPTIONS TOWARD ITS USE

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OBJECTIVES: Economic evaluations are used to help determine whether new health technologies represent value for money. Under a fixed budget, an empirical estimate of the opportunity cost of funding decisions provides a reference value below which the Incremental Cost-Effectiveness Ratio (ICER) of a new technology can be considered value for money. A key barrier to adopting the estimated opportunity cost as a reference ICER in decision making is the perceived negative community response. **METHODS:** National data on healthcare spending and mortality outcomes are used to estimate the per capita mortality-related QALY gains using Instrumental Variable Two-Stage Least Squares regression. Population-level change in Health-Related Quality of Life (HRQoL) is estimated using a fixed effects model from a longitudinal, panel survey to generate per capita morbidity-related QALY gains. The reference ICER is estimated from the combined per capita mortality- and morbidity-related QALY gains. Community preference for price reductions and willingness to accept potential consequences are sought using a nationally representative online survey. **RESULTS:** Results indicated that healthcare spending had a significant impact on mortality-related QALYs lost (β=-1.6, p<0.001), resulting in a per capita mortality-related QALY gain of 0.0013. There was a significant improvement in the annual time trend for population-level HRQoL (β=0.0026, p<0.001) generating a per capita morbidity-related QALY gain of 0.0066. The base case estimate of the reference ICER for Australia is less than AUD30,000 (95% CI AUD20,758, AUD37,667). Public preferences and willingness to accept potential consequences of using this estimate will be explored. **CONCLUSIONS:** There is no explicit use of a reference ICER in key decision making committees in Australia, though evidence suggests funding is less likely with an ICER greater than AUD45,000/QALY. The reference ICER estimated here suggests that for every QALY gained from a health technology with an ICER of AUD45,000/QALY, 0.5 QALYs are lost elsewhere in the healthcare system.

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PAYING FOR GENE THERAPIES: APPROACHING A SUSTAINABLE SOLUTION

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OBJECTIVES: 1. To develop a framework that captures pricing and reimbursement challenges faced by gene/cell therapies in the context of current healthcare pricing and reimbursement systems; 2. To identify alternate payment and funding models from within the biopharmaceutical industry, and from broader industries, that may overcome those challenges for gene/cell therapies; 3. To conduct a feasibility assessment of those alternate models for future gene/cell therapies in the context of current EU5 healthcare pricing and reimbursement systems. **METHODS:** To understand the challenges faced by gene/cell therapies, a targeted review of current pricing and reimbursement decisions for marketed gene/cell therapies was conducted, supplemented with expert interviews. Innovative pricing and funding models within the biopharmaceutical industry and across broader industries were identified by conducting a targeted review of materials available in the public domain. A feasibility analysis was conducted to explore in which countries these pricing and funding models might be feasible, and what, if any, healthcare system adaptations would be required. **RESULTS:** Six distinct challenges were identified and broadly segmented into those associated with payment and funding (e.g., one-off up-front payment required for curative therapies), and those associated with assessing value (e.g., uncertainty around long-term effect). Eight innovative pricing and funding models were identified and described: payment-by-results, partial or full capitation, amortisation, annuity, prize funding, reinsurance, and framework contracting. Payment-by-results and capitation models were found to offer the most feasible solutions for gene/cell therapy pricing and reimbursement in select European countries. Considerable legislative/policy changes were considered necessary for the successful implementation of other models in EU5. **CONCLUSIONS:** Existing pricing and funding models are insufficient to support a sustainable gene therapy business model. National or regional legislative change may be required to achieve a sustainable solution.

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VALUING HEALTH AT THE END OF LIFE: AN EXAMINATION OF FRAMING EFFECTS AND STUDY DESIGN CONSIDERATIONS

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OBJECTIVES: A number of recent studies have examined the extent of public support for an 'end-of-life premium' – that is, whether people place greater weight on a unit of health gain for end-of-life patients than on that for other types of patients. The objective of this study is to assess whether any observed preferences regarding an end-of-life premium are affected by framing effects and study design considerations, such as the perspective used to elicit preferences and whether or not visual aids and indifference options are included in the survey. **METHODS:** Preferences were elicited from a representative sample of the UK general public using an online survey (n=2401). Respondents were randomly allocated to one of six study arms, each of which applied a different framing. The study design was informed by the National Institute for Health and Care Excellence's supplementary policy appraising life-extending end-of-life treatments. The choice tasks involved asking respondents which of two hypothetical patients they would prefer to treat, assuming there were enough funds to treat only one of them. Respondents were also asked a series of attitudinal questions examining their support for general health care priority setting policies. Comparisons between arms and between tasks were assessed using the Pearson's chi-squared test. **RESULTS:** The overall results were not consistent with an end of life premium. Respondents' choices were found to be sensitive to the choice of perspective, and to the inclusion of indifference options and (to a lesser extent) visual aids. However, in none of the study arms did a majority of respondents choose to prioritise the treatment of the end of life patient. **CONCLUSIONS:** The findings demonstrate the influence of framing effects and study design considerations in stated preference research. Researchers should seek to control for such effects when seeking to examine people's health care priority setting preferences.