performed by Mexican private consultants and 67.6% of the CEE presentations used a decision tree-model or a Markov model. **CONCLUSIONS:** An increase of Mexican presentations at ISPOR meetings mainly promoted by local consultants and pharmaceutical companies with a medium methodological quality.

PHP78

THE STATUS QUO OF THE USAGE OF CHINESE VERSIONS OF GENERIC HEALTH-RELATED QUALITY OF LIFE INSTRUMENTS

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OBJECTIVES: In order to assess health-related quality of life (HRQoL) among Chinese-speaking populations, a number of HRQoL instruments originally developed in English in North America or Europe were translated into Chinese over the past two decades. The current study attempted to review the usage of Chinese versions of generic HRQoL instruments including SF-36, SF-12, SF-8, SF-6D, EQ-5D, HUI2, HUI3, and QWB. **METHODS:** MEDLINE and five Chinese databases including CNKI (mainland China), CBM (mainland China), Wanfang (mainland China), CEPS (Taiwan), and HKInChiP (Hong Kong & Macau) were searched up to December 2008 for HRQoL studies in Chinese-speaking populations. **RESULTS:** A total of 1341 relevant original research papers were identified. Approximately three-quarters (73.90%) of papers were published in Chinese journals. The vast majority of papers (91.50%) were published after the year of 2002. In terms of the number of papers, the top three frequently used generic HRQoL instruments were SF-36 (n = 1281), EQ-5D (n = 30), and SF-12 (n = 28). One thousand and sixty-two papers reported HRQoL measured in patient populations, with circulatory diseases being the most frequently studied therapeutic areas (n = 195). Geographically, identified studies were mainly conducted in mainland China (n = 1012), followed by Taiwan (n = 149), Hong Kong (n = 112), Singapore (n = 53), U.S. (n = 10), Canada (n = 4) and Australia (n = 1). Except for Singapore where the majority of studies were used to evaluate instruments, generic HRQoL instruments were mainly used to measure quality of life in other countries or districts. **CONCLUSIONS:** There is a growing body of English and Chinese literature on the measurement of HRQoL using generic HRQoL instruments in Chinese-speaking populations. For better assessment of Chinese-speaking populations, the appropriateness of existing generic HRQoL instruments should be further evaluated in the future.

PHP79

ASSESSING THE QUALITY OF CARE IN ITALY'S PRIMARY CARE PRACTICES USING ADMINISTRATIVE DATA. IS IT FEASIBLE?

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OBJECTIVES: To develop process indicators for assessing the quality of care in the 23 Primary Care Groups (PCGs) of the Local Health Unit (LHU) of Reggio Emilia, Italy, using administrative data. **METHODS:** Data were extracted from the 2006 Reggio Emilia LHU Healthcare database, including demographic, hospital, outpatient pharmacy, and outpatient specialty data on all residents, as well as information about each LHU General Practitioner (GP). We retrieved information on approximately 450,000 LHU residents and on 343 GPs and their PCG of practice. We included GPs who practiced for the whole year in only one PCG. The sample patient population comprised individuals who were residents in the LHU for the whole year and did not change their GP during the year. Initially developed based on a literature review, the quality indicators were defined jointly by the project team and leaders of the 23 PCGs. For each indicator, we computed the proportion of eligible patients within each PCG who received the recommended care. **RESULTS:** A total of 340 GPs (99.1%) met the inclusion criteria. These GPs had a total number of 383,772 continuously enrolled patients for 2006. The number of GPs per PCG ranged from 4 to 28 and the number of patients per PCG varied from 3,862 to 30,855. Nine quality care indicators covering cardiovascular, diabetes, and asthma management were identified. Analyses of the indicators exhibited significant variation among the PCGs. For example, the proportion of post-myocardial infarction patients receiving beta-blockers varied from 33.3% to 90.9% across the PCGs. **CONCLUSIONS:** Quality of care provided by Italy's family physician practices can be assessed using administrative data. For the indicators adopted, study findings showed a considerable variation in medical patterns among PCGs. These results provide LHU policy makers and PCGs with relevant information to establish quality improvement initiatives targeted at the individual practice level.

PHP80

AN EVALUATION OF PHARMACOECONOMICS EDUCATION IN COLLEGES OF PHARMACY OUTSIDE THE UNITED STATES 2007–2008 UPDATE

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OBJECTIVES: The purpose of the study was to measure the extent of pharmacoeconomics education (PE) in non-US colleges of pharmacy. **METHODS:** Two surveys were used. Survey 1 was e-mailed or faxed to over 700 colleges of pharmacy, obtained from the International Pharmaceutical Federation Website or through Medline and Google Searches, asking respondents if pharmacoeconomics was taught in their college. Survey 2 was sent to respondents who taught PE asking: 1) number of classroom hours devoted to PE 2) whether these were in a required or elective course 3) number of students in the course 4) topics covered 5) resources (books/articles) used. **RESULTS:** Ninety-eight schools responded to Survey 1. Pharmacoeconomics education was offered at 62 (63%) of these 98 colleges. The response rate for Survey 2 was 52% (n = 33). However 3 colleges did not provide complete data, leaving data on 30 colleges for this analysis. Twenty-six (87%) colleges indicated that pharmacoeconomics was taught as a required course, 2 (7%) indicated that it was offered as an elective course, and 2 (7%) indicated that PE was taught as both a required and elective course. The median number of required hours was 16 (std dev = 150). The number of elective hours ranged from 3 to 45 with a median of 27 (std dev = 19). The mean number of students taking pharmacoeconomics as a required course was 104 (std dev = 60; median = 90, range 12–250). "Types of pharmacoeconomic analyses" (i.e., comparing CBA, CEA, CMA, CUA) was the most common topic taught. Several articles and books were provided as resources. A comparison of these results to similar studies conducted previously will be provided. **CONCLUSIONS:** Correct and current contact information for international pharmacy schools was difficult to obtain, and obtaining high response rates was also challenging. In this study, both e-mails and facsimiles were used to increase response rates.

HEALTH CARE USE & POLICY STUDIES – Health Technology Assessment Programs

PHP81

ADDRESSING THE CHALLENGE OF IMPLEMENTING HEALTH TECHNOLOGIES: THE SPANISH EXPERIENCE

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OBJECTIVES: To explore the present the process followed to implement technologies in the public health sector from the perspective of key decision makers. The Spanish National Health System (NHS) is decentralized, and most management is decided in the seventeen Autonomous Communities (AC). Several health technology evaluation agencies (HTEA) have been established countrywide. The literature shows that implementation 'technologies' remains far from ideal in Spain (Gonzalez B, 2007). **METHODS:** A naturalistic, qualitative study was conducted. Semi-structured interviews with key decision makers across country, including senior health managers at the Autonomous Communities' Departments of Health (macro-level of decision), Hospitals' managers and directors (meso-level), Heads of clinical services (micro-level of decision), and experts on health services' research and evaluation were carried out to explore their views on the present of the implementation of technologies in the health system. Data interviews data were collected until different categories of information was saturated. The grounded theory method was applied to categorize the information gathered. **RESULTS:** A total of 35 interviews were conducted, including managers, researchers and evaluators. Eight categories of information emerged: 1) the industry's inputs to the NHS, contributing to its modernization; 2) the assessment of technologies, based on safety and efficacy while leaving behind effectiveness, efficiency or cost-benefit; 3) implementation processes, relying on informal mechanisms and variable criteria; 4) the gap, between legal statements and existing practices; 5) HTEA reports', of scarce impact on managers' decisions; 6) financing mechanisms, that one barely effective in responding to technological progresses; 7) the industry, seen as a self-centered NHS provider making little efforts to realistically show the "pros and cons" of technologies; 8) the need for transparency, openness and consensus amongst all involved. **CONCLUSIONS:** Major opportunities for improvement in the implementation of technologies in the NHS exist. These findings set the basis for exploring strategies to enhance the future scenario.

PHP82

USE OF INDIRECT COMPARISON IN HTA SUBMISSIONS

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OBJECTIVES: The quality of evidence used by manufacturers in submissions to HTA agencies is an important determinant of a positive appraisal. In 2008, NICE revised guidelines and added a section on indirect synthesis methods. The study objective was to evaluate previous trends and understand past and evolving influences of methodological factors, particularly indirect and mixed treatment comparisons, on submission outcome. **METHODS:** A landscape review was conducted of NICE submission methodologies and appraisal outcome, with focus on the use of indirect comparison. Key data were extracted from NICE/ ERG documents for all NICE appraisals (2003-August 2008). Also, case studies were investigated in rheumatoid arthritis, osteoporosis, bone metastases and oncology. Key findings and recommendations for submission preparation, with focus on indirect comparison use, are presented. **RESULTS:** The number of indirect comparisons used in appraisals has increased from 2 to 8 between 2005 and 2008. The proportions of published NICE appraisals mentioning indirect comparisons to total appraisals were 2/7 (2005), 2/18 (2006), 7/21 (2007) and August 2/18 to August 2008. Indirect comparison, historically, used primarily in oncology, is increasingly being implemented in other therapeutic areas. However, 81% of NICE submissions that included indirect comparison have been recommended, compared with 86% that did not include indirect comparison. NICE critique of indirect comparisons across submissions focused on the lack of clear justification of methodology, assumptions, and comparators used, along with management of clinical and statistical heterogeneity. Further, case studies have shown the need to avoid non-validated methods and distant indirect comparisons. **CONCLUSIONS:** Where head-to-head

data are unavailable or insufficient, indirect comparison is increasingly used across therapy areas, reflected by recent NICE guidance. To maximise quality of submissions, analyses must use validated methodology, manage heterogeneity appropriately and clearly justify decisions and usage of methods and comparators. Rationale for use of indirect comparisons is also required.

PHP83

WHAT IS THE FUTURE IN THE IMPLEMENTATION OF HEALTH TECHNOLOGIES IN THE PUBLIC SECTOR IN SPAIN? A QUALITATIVE STUDY EXPLORING KEY DECISION-MAKERS' PERSPECTIVES

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OBJECTIVES: To explore key decision-makers' agreement on desirable scenarios to effectively implement health technologies in the public sector in the future. From 2006 onwards, the Spanish government has undertaken several initiatives to establish a reliable mechanism for implementing technologies in the National Health System (NHS). **METHODS:** A naturalistic, qualitative, two phases study was conducted. The current situation of implementing health technologies' in Spain was explored on an earlier study. Based on the present circumstances, both phases of this study sought to explore and determine the level of agreement amongst key decision- makers on suitable strategies to improve the existing conditions. Phase One: semi-structured interviews explored their views on desirable scenarios to more effectively implement health technologies in the public sector. Phase Two: the Delphi method determined the level of agreement amongst participants on key messages consistently endorsed during the interviews. Two rounds of questionnaires were required to consolidate consensus level. **RESULTS:** A total of 35 interviews were conducted, including managers, researchers and evaluators across country. Several categories of information emerged and were assessed in the Delphi process amongst 26 participants. Most responses (≥75%) agreed on: 1) decision making: based on a demonstrated incremental cost-benefit ratio; 2) desirable attributes: efficiency and cost-benefit, safety and eficacy; 3) unified processes countrywide; 4) information: open and consistent management across, and within, levels of decision, with the health technology evaluation agencies (HTEA), and the industry; 5) education: continued training of decision- makers; 6) evaluation model: organized HTEA, coordinating efforts, following up transparent, participative and methodologically robust processes agreed across Europe; 7) financing mechanisms: more flexible, collaborative formulas to avoid blocking the implementation of cost-beneficial technologies; and 8) the industry's role: expert, legitimate provider, "trainer of trainees" **CONCLUSIONS:** These findings should serve the Spanish Health Authorities to effectively improve the implementation of health technologies in the NHS.

PHP84

A COMPARISON OF REASONS FOR RECOMMENDATION AND REJECTION ACROSS FOUR HEALTH TECHNOLOGY APPRAISAL SYSTEMS CATEGORISED BY DISEASE

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OBJECTIVES: Reasons provided by the health technology appraisal (HTA) agencies for the guidance issued vary across the board. Following interest from a previous ISPOR presentation, we sought to further investigate the reasons for recommendation/rejection between NICE, SMC, CADTH, and PBAC with a specific focus on disease-specific reasons. **METHODS:** A previously developed database was updated with data from submissions appraised between 31 May and 31 December 2008 by NICE, SMC, CADTH, and PBAC, in England/Wales, Scotland, Canada, and Australia, respectively. Submissions with opposing decision outcomes were included and were categorised by disease based on the BNF (cardiovascular system, CNS, endocrine system, gastro-intestinal system, infections, malignant diseases and immunosuppression, musculoskeletal and joint diseases, nutrition and blood, obstetrics, gynaecology, and urinary tract disorders, respiratory system, and skin). Reasons for acceptance/rejection were analysed across the disease categories. **RESULTS:** In total, 83 submissions were included for analysis. Across all HTAs, the most common rejection reasons for skin disease interventions included "not more effective than comparators" and "not cost-effective"; these reasons were demonstrated in 100% of the submissions for interventions relating to skin disorders. The most common rejection reasons in malignant diseases and immunosuppression included "not cost-effective" and "concerns over the economic model" (100% for both). The majority of the reasons for rejection were reported in 50% or less of the submissions per disease group. Of the recommended interventions, those for the treatment of skin disease were all "more effective than placebo and comparators" as well as having a lower cost. Interventions for infectious diseases and obstetrics, gynaecology, and urinary tract disorders demonstrated a wide range of reasons for rejection. **CONCLUSIONS:** Sub-group analysis categorised by disease provides further insight into the primary reasons for rejection and recommendation across HTA bodies. Analysing trends within these submissions highlights potential obstacles for new interventions within a specific disease area.

PHP85

REVIEW OF HTA RECOMMENDATIONS FOR DRUG THERAPIES IN POLAND ISSUED FROM SEPTEMBER 6, 2007 UNTIL OCTOBER 28, 2008 BY THE CONSULTATIVE COUNCIL (APPRAISAL COMMITTEE) OF AHTAPOL IN POLAND

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OBJECTIVES: Review of HTA recommendations issued by the Consultative Council of AHTAPol in Poland. **METHODS:** Fifty-nine drug recommendations, January 2007–58/16/2008, from September 2007 until October 2008, available online, were analyzed. Appraisals were grouped into positive and negative recommendations. The clinical and non-clinical reasons for rejection of use were studied. The positive guidances were divided into recommendations with major, minor and without restrictions. **RESULTS:** Thirty-two HTA reports received negative recommendations; 26 on the grounds of clinical evidence and 6 because of non-clinical issues. Among 26 recommendations, insufficient clinical effectiveness data was the most frequently stated reason (18 cases). In other eight guidances, the argument of poor efficacy or safety was raised. Among non-clinical aspects, unacceptable cost-effectiveness ratio was given four times. The unacceptable budget impact and risk of off-label use were mentioned each one only once. Twenty-seven HTA reports received positive recommendations, of which 18 for use with major restrictions, 7 with minor restrictions and 2 without additional restrictions. Among those 18 recommendations, several restrictions were imposed simultaneously. The most common was prescription restricted to specific subpopulations (15 cases), followed by the need for an improvement of cost-effectiveness (6 cases), use as second line (5 cases), use if intolerant to other treatment (3 cases), reimbursement within specific period (2 cases). Among recommendations with minor restrictions, lowering price was mentioned five times and use by specialist twice. The appraisal of cost-effectiveness analysis was included more frequently in positive rather than negative quidances; 63% vs. 57%. The study revealed that an ICER was above WHO threshold, accepted by AHTAPoL, in 65% of positive recommendations. An ICER was below threshold in 44% of negative recommendations. **CONCLUSIONS:** The negative and positive HTA guidances with major restrictions prevailed in Poland. Clinical rather than pharmacoeconomic aspects were the most common reason for an appraisal recommendation.

PHP86

PUBLICATION TRENDS OF BUDGET IMPACT ANALYSES OVER THE PAST SIX YEARS

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OBJECTIVES: Budget impact analyses (BIAs), along with cost-effectiveness analyses, are an essential part of a comprehensive economic assessment of a new health technology and increasingly required by national regulatory agencies and managed care organizations. This study describes the characteristics and growth of BIAs published in the literature over the past 5–6 years. **METHODS:** An initial search was conducted using PubMed, a service of the U.S. National Library of Medicine. Approximately 800 citations were retrieved using key words of "budget impact" and "budget analysis" and limits of "English Language" and "published within the last 6 years". Additional articles were obtained through ancestral and related article searches. All relevant BIA articles were identified through an initial title review and secondary abstract review and included in this study. **RESULTS:** We identified 32 BIAs published between 2003 and 2008. The number of studies published each year were 1 (2003), 3 (2004), 5 (2005), 6 (2006), 7 (2007) and 10 (2008), showing a steady upward trend. The publishing journals had impact factors ranging from 1.985 to 5.888. Just over half of published studies (18/32) assessed budget impact of a health technology in the United States, while the remaining studies were performed in European countries, Canada and Brazil. Although the majority of published BIAs (22/32) examined budget impact of a specific drug, several studies assessed budget impact of various procedures e.g. surgical, endoscopic. Fourteen (44%) of the published BIAs were performed in conjunction with a cost-effectiveness analysis. **CONCLUSIONS:** Despite increased demand for and recent growth in number of published BIAs, the absolute number of BIA studies published in peer-reviewed journals remains limited. Future studies should examine whether the quality of published BIAs has improved over time and examine changes in practices following the recently published recommendations of the ISPOR Task Force on good research practices for BIAs.

PHP87

THE IMPACT OF THE SUBMISSION SEQUENCE – WHICH APPRAISING BODY TO SUBMIT TO FIRST?

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OBJECTIVES: The outcomes of health technology assessment (HTA) appraisals conducted by appraising bodies vary greatly and are influenced by a range of factors. The aim of this research was to determine whether the sequence of agencies in which HTAs are submitted has an impact on the guidance issued. **METHODS:** Data from submissions to NICE, SMC and CADTH between 1 November 2005 and 31 December 2008 were included. Only interventions appraised by at least two agencies were of interest. Extracted information included the name of the intervention, the guidance issued and the date of guidance. In addition, a correlation between the sequence of submission and guidance issued was assessed. **RESULTS:** A total of 46 interventions were submitted to at least two appraising bodies. In 76% of cases, the first body to conduct appraisals was the SMC. In contrast, only 4% of the submissions were submitted to

Matching-Adjusted Indirect Comparison Analysis Using Common SAS. Â®. 9.2 PROCEDURES.Â In the absence of head-to-head randomized controlled trial (RCT) data, comparative effectiveness of treatment outcomes can be evaluated using a matching-adjusted indirect comparison, which accounts for observed differences between populations and results in an effect of treatment exposure on survival outcomes less likely due to confounders. INTRODUCTION. In the absence of head-to-head clinical trial data, examining the comparative effectiveness of competing therapies often presents a challenge to researchers. There are several methods for indirect comparisons of clinical outcomes. Indirect comparison is often used because of a lack of, or. insufficient, evidence from head-to-head comparative trials. â—Naive indirect comparison is a comparison of the results of.Â With this in mind, the recent use of indirect comparison in investigating the differences in bioavailability between generics was reviewed. Among the available methods for performing indirect comparisons, the adjusted indirect comparison is the simplest and most suitable method for bioequivalence studies, because it uses publicly available data, and partly preserves the power of randomized controlled trials.Â In case no head-to-head studies are available for direct comparisons, the submission of indirect comparisons is permitted to assess the additional benefit of the new drug. RSpec provides a number of matchers that are based on Ruby's built-in operators. These can be used for generalized comparison of values. E.g. expect(9).to be > 6 expect(3).to be <= 3 expect(1).to be < 6 expect('a').to be < 'b'.Â To add a collaborator to this project you will need to use the Relish gem to add the collaborator via a terminal command. Soon you'll be able to also add collaborators here! More about adding a collaborator.