functions and assessment of clinical evidence in China. However, efficacy in head-to-head studies (Score 7.5) and safety (Score 8.3) were the most desired attributes. CONCLUSIONS: Awareness of cost-effectiveness is at an early stage in major hospitals in China; the key attributes continue to be safety and efficacy. However, there is a trend toward requirement of health-related quality of life data at the national payer level, particularly regarding oncology medicines. Further research is needed in this area, in order to gain a more detailed understanding from the pharmaceutical company perspective.

**HEALTH CARE USE & POLICY STUDIES – Health Care Research & Education**

**PHP34**

**THE EVALUATION OF HEALTH-CARE SYSTEMS OF CHINA, HONG KONG, VIETNAM, THAILAND, MALAYSIA, SINGAPORE AND AUSTRALIA**

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OBJECTIVES: To examine the health-care systems of China, Hong Kong, Vietnam, Thailand, Malaysia, Singapore and Australia using a pre-determined set of indicators. These were used to assess each system in terms of accessibility, effectiveness, efficiency, quality and responsiveness. METHODS: This study was a qualitative study. A set of indicators and sub-indicators was developed based on indicators used by the World Health Organisation, United Nations, the Organisation for Economic Co-operation and Development (Health Care Quality Indicator Project), and from health frameworks of Australia, New Zealand, Canada, USA and UK. The indicators were used to assess health-care systems from an operational perspective. A literature search and interviews with relevant academics and government officials were conducted to address each indicator. This provided a more comprehensive view of the functioning of each health-care system and how the system itself is regulated and provides health-care services to its people. RESULTS: Each of the surveyed countries have certain measures in place to address health-care accessibility. The majority of the countries have clear guidelines to improve effectiveness and efficiency. However, most developing Asian countries lack clear programs to assess the quality and responsiveness of their health-care systems. CONCLUSIONS: Different countries have different health considerations and priorities in terms of politics, finance and resources where health-care systems are concerned. Each has its respective strengths and weaknesses. What is appropriate for one country may not be suitable for another. This evaluation provided clarity and insight into the operation of each system and highlighted areas that require further attention. Interviews with local academics, government officials and other health-care stakeholders in each country yielded a more comprehensive and in-depth understanding on the functioning of each health-care system.

**PHP35**

**HEALTH TECHNOLOGY ASSESSMENTS: INDICATORS OF DEVELOPMENT IN ASIA**

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OBJECTIVES: To understand the historical climate through which ten Asian markets arrived at the establishment of an HTA authoritative body, and the extent to which pharmacoeconomic evaluations have evolved in each of these markets. METHODS: Secondary and primary research was conducted in South Korea, Thailand, Philippines, Taiwan, Singapore, Malaysia, Indonesia, India, China and Japan to examine political and economic changes over the last 30 years. The results were compiled and analyzed along with other metrics, such as pricing legislation, health-care coverage, and HTA development to determine a correlative pattern for Asian pharmacoeconomic development. RESULTS: While three of the studied markets are exceptions to the trend, we believe the other seven will follow the discernible course of events. A change in political climate, desire for universal health care, financial crisis and strong development of a national formulary are all policy objectives and events along the path toward HTA development. HTA establishment in those seven countries is at various phases of development, but for most of the markets creation of an HTA unit and utilization of it is the next step in their pharmaceutical market evolution. CONCLUSIONS: Developing pharmaceutical markets have become reliant on pharmacoeconomic data to determine the true value of innovative pharmaceutical products. The establishment of an HTA body in these Asian countries will continue to develop and will become an important aspect of their pharmaceutical market expansion, therefore the subject matter warrants further research and attention.

**PHP36**

**ANALYSIS OF THE TECHNICAL EFFICIENCY IN THREE TEACHING HOSPITALS IN MALAYSIA**

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OBJECTIVES: The measurement of efficiency is usually the first step in auditing performance of hospitals. Measuring hospital efficiency provides useful information for hospital managers. It constitutes the rational framework for the distribution of human and other resources between and within hospitals. This study focuses on measuring and evaluating technical efficiency in teaching hospitals at department level.

**PHP32**

**PROBABILISTIC SENSITIVITY ANALYSIS—A NECESSARY EXTRA?**

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OBJECTIVES: Probabilistic sensitivity analysis (PSA) is a useful tool to assess parameter uncertainty, but being among the more technologically advanced methods in cost-effectiveness modeling, it is sometimes underutilized. However, following the incorporation of PSA by NICE, the English HTA agency, into their guidelines in 2005, there was a call for the routine use of PSA in economic modeling. This study investigates whether these two developments have had an effect on cost-effectiveness modeling practice, and also reviews current requirements for PSA in reimbursement guidelines globally. METHODS: The following three journals in which cost-effectiveness analyses appear most frequently were published in the study: Medical Decision Making, Pharmacoconomics and Value in Health. All papers published in these three journals in 2004 and 2009 respectively were assessed. In addition, pharmacoeconomic guidelines from 31 countries were compared for the requirement of PSA in reimbursements. RESULTS: In the three journals from 2004 to 2009, the overall number of articles presenting cost-effectiveness modeling increased from 41 (2004) to 55 (2009). In 2009, 69% of these articles presented PSA, compared to only 32% in 2004. Of a total of 31 national pharmacoeconomic guidelines, 12 mention PSA. However, 5 of these require this form of analysis to be included in reimbursement submissions. Many countries with well established requirements for economic analysis in reimbursement submissions, such as Australia, do not require PSA. CONCLUSIONS: The usage of PSA to investigating parameter uncertainty is now common and increasing. The trend is also starting to show in the reimbursement agencies guidelines.

**PHP31**

**WILLINGNESS TO PAY PER QUALITY ADJUSTED LIFE-YEAR: IS ONE THRESHOLD APPLICABLE FOR ALL DECISION-MAKING?**

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OBJECTIVES: To estimate the Willingness to pay (WTP) per quality-adjusted life-year (QALY) value with the stated preference data and compare the results obtained between biochromic prostatitis (CP) patients and general population. METHODS: CP patients were recruited from two tertiary referral hospitals and the general populations were randomly approached in China at the beginning of 2009. WTP per QALY was calculated with a formula combining the subjects’ own health-related utility and the WTP value. Two widely used preference-based health-related quality of life instruments, EQ-5D and SF-6D, were used to elicit utility for participants’ own health. The monthly WTP values for moving from participants’ current health to a perfect health described by “111111” status of EQ-5D were elicited using closed-ended iterative bidding contingent valuation method. RESULTS: A total of 268 CP patients and 364 participants from general population completed the questionnaire. We obtained four WTP/QALY ratios ranging from $4700 to $7400, which were lower than the proposed thresholds and published researches eliciting the preference for avoiding the risk of death. In addition, the WTP/QALY ratios from the general population were significantly lower than those from the CP patients and different determinants were associated with the within group variation identified by multiple linear regression. CONCLUSIONS: Preference elicitation methods are acceptable and feasible in the socio-cultural context of an Asian environment and the calculation of WTP/QALY produced meaningful answers. The lower WTP/QALY elicited than published values and higher value from CP patients compared with the general population highlight the necessity of considering disease specific QALY in estimating WTP/QALY. Our results inferred that one threshold might not be enough to serve all decision-making under different circumstances. Further studies using the same methods to confirm whether the WTP/QALY value would be dissimilar across the diseases with different impacts on Qol. would be needed.

**PHP33**

**CHINESE PAYERS’ VIEW OF PHARMACEUTICAL VALUE ATTRIBUTES: WHICH EVIDENCE DRIVES ACCESS?**

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OBJECTIVES: The evidence needs of payers in mainland China at the national, regional and local hospital level are poorly understood. As such, analysis is required to capture payer preferences regarding evidence submissions from pharmaceutical companies and identify emerging trends in value evidence needs. METHODS: A qualitative telephone survey of 30 key payers in Tier 3A hospitals, provincial funding bodies and national decision-making groups was conducted. Respondents were asked to score the impact of the following value attributes in their routine assessment of health-care products for formulary listing and/or reimbursement: 1) Innovation; 2) Health-related quality of life; 3) Unmet need; 4) Cost effectiveness; 5) Price; 6) Budget impact; 7) Safety; 8) Efficacy in head-to-head trials; and 9) Efficacy in selected populations. Scores derived were weighted according to a market in order to derive maximal scores for each evidence type. RESULTS: Hospitals reported that budget impact was the least significant evidence type (Score 5.6), due to the “self-pay” model of patient access in China. Among hospital and provincial payers, price was the second least significant attribute (Score 6.3), due to the separation of pricing

**PHP30**

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OBJECTIVES: The measurement of efficiency is usually the first step in auditing performance of hospitals. Measuring hospital efficiency provides useful information for hospital managers. It constitutes the rational framework for the distribution of human and other resources between and within hospitals. This study focuses on measuring and evaluating technical efficiency in teaching hospitals at department level.