

### PHP105 DRIVERS OF CLINICIAN PRESCRIBING DECISIONS AND THE ECONOMICS OF INFORMATION

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**OBJECTIVES:** Policy decision makers require accurate forecasts of the financial implications of funding a new drug. They may also wish to influence adoption to ensure the most cost-effective pattern of care. The seminal theory regarding the adoption of innovations was published by Rogers in 1962; but there are several reasons why health care may be a special case. This paper assesses the applicability of Rogers's theory to the adoption of new drugs, and identifies how it could be extended using economic theories of information. **METHODS:** The empirical literature on drug adoption was reviewed to determine the consistency of findings with Rogers's theory and the economic theories of information. **RESULTS:** Overall 74 empirical studies were reviewed. Clinicians consider a broad range of attributes when adopting a new drug, with their relative importance dependent on the patient and therapeutic area. Consistent with Rogers's theory, interpersonal communication channels are the most important information source, with clinicians, especially GPs, more likely to rely on advice from specialists or pharmaceutical representatives than peer-reviewed publications. Moreover, clinicians are influenced by 'norm' prescribing behaviour. These findings can be further explained using economic theories of information. Obtaining information via peer-reviewed publications requires more effort compared to specialists and pharmaceutical representatives. As patients cannot observe the effort expended, there is a potential for moral hazard in terms of reduced effort and thus an increased reliance on pharmaceutical representatives. Clinical evidence is often uncertain and not always directly applicable to current practice, which can lead to following 'norm' prescribing behaviour and persistent prescribing when combined with risk-aversion. **CONCLUSIONS:** Rogers's theory only partially explains drug adoption. An expanded framework regarding drug adoption is proposed, incorporating agency relationships, moral hazard, uncertainty and risk-aversion.

### PHP106 HEALTH ECONOMIC ANALYSES IN MEDICAL NUTRITION: A SYSTEMATIC LITERATURE REVIEW

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**OBJECTIVES:** Medical nutrition is dedicated to patients with some nutritional deficiencies or inability to eat normally. When used on top of normal diet in patients or in Crohn's disease, medical nutrition can improve patient's recovery or have a therapeutic effect. Although efficacy studies of medical nutrition exist, it is unclear regarding health economic analysis. This research assessed the current health economic evidence published on medical nutrition. **METHODS:** A systematic literature search was performed using PubMed, the Health Technology Assessment Database, and the NHS Economic Evaluation Database. For selected articles, the clinical background and basis of the analysis, health economic design and results were extracted. Finally for health economic modeling studies, the Drummond checklist was applied to validate their quality; whereas for systematic reviews the AMSTAR checklist was used. **RESULTS:** Fifty-three articles were identified and obtained via PubMed. Among them, 32 articles have been included in a thorough data extraction procedure. Among these articles, only few health economic models have been found: Most of the articles were modelling analyses and economic trials. Overall only 8 health economic models were validated applying the Drummond checklist. Anyhow, most included models have been carried out with a quite high quality standard even though some areas were identified for further improvement. Within the two identified reviews of health economic studies one review achieved the highest quality scores applying the AMSTAR checklist. **CONCLUSIONS:** Reasons for finding only few modeling studies but quite a large number of clinical trials with health economic endpoints might have different reasons. Until recently, health economics wasn't required in reimbursement or coverage decisions for medical nutrition interventions; and there might be specificities of medical nutrition which might not allow easy modeling. Further research is warranted to understand the specifics of medical nutrition and its applicability for health economic modelling.

### PHP107 PREFERENCE STRUCTURE OF CLINICIANS IN THE USE OF ELECTRONIC MEDICAL RECORDS; QUANTIFYING THE RELATIVE IMPORTANCE OF BARRIERS AND FACILITATORS OF AN INNOVATION

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**OBJECTIVES:** Electronic medical records (EMRs) in hospitals are potentially beneficial for quality and safety of care, but diffuse slowly. Many of the barriers and facilitators of the adoption of EMRs are identified, but the relative importance of these factors is still undetermined. This paper quantifies the relative importance of known barriers and facilitators of EMR, experienced by the users (i.e., nurses and physicians in hospitals). **METHODS:** A d-efficiently designed discrete choice experiment (DCE) was conducted among physicians and nurses. Participants answered ten choice sets containing two scenarios. Each scenario included attributes that were based on previously identified barriers in the literature and the model of the Unified Theory of Acceptance and Use of Technology (UTAUT), namely: data entry hardware, technical support, supervisor attitude, performance feedback, flexibility of interface and decision support. Panel Mixed Multinomial Logit analysis was used to determine the relative importance of the attributes. **RESULTS:** Data on 148 nurses and 150 physicians showed that high flexibility of the interface was the most important factor

for the intention to use the EMR. For nurses this attribute was followed by support from supervisor, presence of performance feedback from the EMR and presence of decisions support. While for physicians this ordering differed since presence of decision support was relatively more important than performance feedback and support from the supervisor. **CONCLUSIONS:** Considering the prominent wish of all the intended users for a flexible interface, currently used EMRs only partially comply with the needs of the users, indicating the need for closer incorporation of user needs during development stages of EMRs. The differences in priorities amongst nurses and physicians show that different users have different needs during the implementation of innovations. Hospital management may use this information to design implementation trajectories to fit the needs of various user groups.

### PHP108 EVALUATE THE STATUS OF PHARMACOECONOMIC RESEARCH DEVELOPMENT IN CHINA FROM 2002 TO 2013

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**OBJECTIVES:** To describe the current status of Pharmacoeconomic (PE) research in China from Jan 2002 through June 2013. **METHODS:** We conducted a review of pharmacoeconomic studies performed in China during Jan 2002 to June 2013. Using the Wangfang Chinese Database, we identified a total of 1338 articles. Keywords used are 'Pharmacoeconomics' or 'Cost-Effectiveness Analysis' or 'Cost-Benefit Analysis' or 'Cost-Utility Analysis' or 'Cost' or 'Cost Study' or 'Economics Analysis' all following by '(Healthcare and Medical Care)' to exclude animal and other studies. Through a manual review, we excluded another 52 articles that did not align with study objectives. Article types selected are Journals, Academic Essays and Conference Essays. Descriptive analyses were performed to identify current trends, including number of articles by year, type of studies, and type of studies by year. **RESULTS:** A total of 1286 articles were conducted in China from 2002 to 2013. In general, the number of articles per year has been on the rise since 2002 and appears to approach a steady state after 2007. Numbers of articles by year are 91 in 2002, 84 in 2003, 107 in 2004, 110 in 2005, 136 in 2006, 132 in 2007, 121 in 2008, 120 in 2009, 130 in 2010, 116 in 2011, 112 in 2012 and 27 during first half of 2013. The most common type of studies found were economic analyses (n=908/1286), of which cost-benefit analyses (n=395) were most commonly conducted. Two other common research types included treatment use (n=48) and application of PE (n=146), namely the role of PE to help determine price and inform health care management decisions. **CONCLUSIONS:** The development of Pharmacoeconomic research in China has been on a steady rise since 2002 with most output focused on economic modeling, followed by application of PE and treatment use.

### PHP110 LONG-TERM SURVIVAL AFTER INTENSIVE CARE UNIT DISCHARGE IN THAILAND: A RETROSPECTIVE STUDY

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**OBJECTIVES:** Economic evaluations of interventions in the hospital setting often rely on the estimated long-term impact on patient survival. Estimates of mortality rates and long-term outcomes among patients discharged alive from the intensive care unit (ICU) are lacking from lower and middle-income countries. This study aimed to assess the long-term survival, life expectancy (LE) and the quality-adjusted life expectancy (QALE) amongst post-ICU patients in a middle-income country. **METHODS:** In this retrospective cohort study, data from a regional tertiary hospital in northeast Thailand and the regional death registry were linked and used to assess patient survival time after ICU discharge. Adult ICU patients aged at least 15 years who had been discharged alive from an ICU between 1 January 1, 2004 and December 31, 2005 were included in the study, and the death registry was used to determine deaths occurring in this cohort up to December 31, 2010. These data were used in conjunction with standard mortality life tables to estimate annual mortality and LE. **RESULTS:** A total of 10,321 ICU patients were included in this analysis; 3,251 patients (31.5%) died during ICU admission. Of 7,070 patients discharged alive, 2,527 (35.7%) were known to have died within the five-year follow-up period, a mortality rate 2.5 times higher than that in the Thai general population (age- and sex-matched). The mean LE was estimated as 18.3 years compared with 25.2 years in the general population. Given the range of the Health Related Quality of Life (HRQOL) from the published literature, the mean QALE of post-ICU patients would range from 10.2 to 16.1. **CONCLUSIONS:** Post-ICU patients experienced much higher rates of mortality than members of the general population over the five-year follow-up period, particularly in the first year after discharge. Further work assessing HRQOL in both post-ICU patients and in the general population in developing countries is needed.

### PHP111 INVESTIGATING SAFETY-APPROACH IN SAUDI ARABIA MINISTRY OF HEALTH HOSPITALS

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Joint commission (JCI) International Patient centered standards-2011 promotes improvements in patient safety (ISPG) & Medication Management Use (MMU). **OBJECTIVES:** To investigate historical changes of patient-safety approach in Saudi Arabia, create comparison baseline for future studies. **METHODS:** Cross-sectional 2003 survey sent to pharmacy managers of 127 hospitals of Ministry of Health (MOH); 67.7% responded; data of 63.7% hospitals were valid for analysis. 19 hospitals were chosen deliberately according to their level of development, their data was tested against selected criteria. Due to limitations of data; only 2 criteria were selected: