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EFFECTIVENESS AND COST-BENEFIT OF A BUPIVACAINE PHYSICIAN EDUCATIONAL PROGRAMME IN MINIMIZING THE SPINAL ANESTHESIA FAILURE RATE: REPORT FROM A TERTIARY-CARE HOSPITAL IN CENTRAL TAIWAN

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OBJECTIVES: To evaluate the effectiveness, as well as the cost-benefit of a hospital-wide physician educational programme in minimizing the spinal anesthesia (SA) failure rate. **METHODS:** A bupivacaine physician educational programme was initiated in June 2011 to minimize the SA failure rate in the Anesthesia Department of a tertiary-care hospital in Central Taiwan. We then used the patients recorded in the institution who underwent SA from January 2010 through December 2011, to evaluate the effectiveness as well as the cost-benefit of the programme, taking into consideration the cost of the training. To minimize potential impact of seasonal change, we compare two patient cohorts, the pre-training and the post-training cohorts, that were collected during July to December in 2010 and 2011, respectively. Logistic regression model was used to evaluate how well the application of the programme will predict SA failure rate, after controlling for potential impact of seasonal change. From the payer's perspective, the cost-benefit of the training was evaluated by calculating the cost needed under the SA failure rates before and after the training, based on the true number of patients undergoing SA after the training. The approved payments from the Bureau of National Health Insurance were used to do the calculation. **RESULTS:** There were 1841 and 2372 patients undergoing SA in the pre-training and post-training periods, respectively. The SA failure rate reduced from 2.66% to 1.39% in the two periods. The training is a predictor of lower SA failure rate (OR 0.57; 95% CI 0.41-0.79, p=0.001). A cost reduction of 3.13% was noted, indicating the cost-benefit of the training. **CONCLUSIONS:** The physician educational programme was associated with a significantly lower SA failure rate, with a RRR of 43%. Moreover, it had a significant cost-benefit profile from the payer's perspective.

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FACTORS ASSOCIATED WITH PHYSICIAN PARTICIPATION IN A NATIONAL CONTINUING MEDICAL EDUCATION PROGRAM

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OBJECTIVES: To improve the quality of diabetes care and assist physicians in acquiring the knowledge base and skills required for diabetes management, the diabetes mellitus pay-for-performance program was integrated with continuing medical education (CME) and implemented in 2001. Our study examined CME's prevalence among physicians and explored the factors associated with variations in CME participation. **METHODS:** This cross-sectional comparison study analyzed the National Health Insurance (NHI) claim data for the year 2008 obtained from the National Health Research Institutes. Descriptive and multiple logistic regression analyses were conducted to investigate the factors associated with differential physician participation in CME. The factors considered included the characteristics of the physician, the organization, and the regulatory body. **RESULTS:** A total of 43% of the NHI registry physicians in this study (n = 18,284) had diabetes patients in 2008, but only 7% were participating in DM-P4P. The factors significantly associated with participation status were as follows: 1) the physician factor, including gender, specialty, practice location, number of diabetes patients, and ratio of majority provider; 2) the organizational factor, including the practice setting and ownership; and 3) the regulatory factor, including the time period for implementing the Diabetes Shared Care Program and the NHI's regulatory districts. **CONCLUSIONS:** This study revealed that under the same financial incentives, physicians had different degrees of willingness to participate in the CME, which could be attributed to the physician, organizational, and regulatory factors. Most of the physicians treating diabetes in Taiwan were not endocrinologists and their expertise was widely distributed among diverse specialties. The CME was a key component in developing physicians' competencies and driving improvements on national diabetes care quality; a low level of participation would however hinder its effects. Policy makers may need to consider various arrangements for increasing physician participation.

HEALTH CARE USE & POLICY STUDIES - Health Technology Assessment Programs

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NATIONAL HEALTH INSURANCE CLAIMS DATABASE AS A VALUABLE SOURCE OF INFORMATION FOR HEALTH TECHNOLOGY ASSESSMENT IN TAIWAN

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OBJECTIVES: Health Technology Assessment (HTA) is developed out of the best scientific evidence in medical, organizational, social, ethical and economic aspect, to provide decison makers as a decision aid. Health decison makers increasingly seek information on "real-world" outcomes; one of such information sources is administrative claims database. The aim of this study is to explore the types of information that administrative claims database has been used in the assessment reports made by Taiwanese HTA agency (CDE/HTA). **METHODS:** We collected all the statistics used or analysis results estimated from health insurance database in the assessment reports that CDE/HTA produced during 2008-2011. These results were further classified by the indication of the product, type of statistics used, and sections of the report. Descriptive analysis was performed. **RESULTS:** There were 34 assessment reports presented statistical data out of National Health Insurance database in 2008-2011. These included 19 New Drug Applications, 13 Commissioned Research and 2 Medical Device Review. For the types of indications, the most frequently applied were the drugs used in the area of "the musculoskeletal system and connective tissue" and "the nervous system and sense organs"(18%). Of all the different types of database used, 65% used longitudinal health insurance database. Mostly used statistics were "the number of patients using drug" (47%) and "the number of patients with diagnosis" (38%). "Burden of disease" (47%) and "budget impact" (32%) were the report sections that presented most of these data. **CONCLUSIONS:** At present, most of the CDE/HTA assessments rely on the Longitudinal Health Insurance Database for estimating "the number of patients with diagnosis" or "the number of patients using drug". This study has described the extensively use of claims database in Taiwanese HTA reports. Further usage of claims dataset on cost effectiveness analysis or comparative effectiveness research is expected.

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IDENTIFYING MODELING FACTORS INFLUENCING COVERAGE DECISIONS BY NICE IN 10 SINGLE TECHNOLOGY APPRAISALS (STA) OF EXPENSIVE DRUGS

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OBJECTIVES: The National Institute for Health and Clinical Excellence (NICE) single technology appraisal (STA) process was introduced in 2005 as a rapid way to appraise new technologies for use within the NHS in England and Wales. Manufacturers are recommended to follow the NICE reference case in presenting clinical effectiveness and cost-effectiveness evidence in their submissions to NICE. The purpose of this research was to identify common modeling factors in the manufacturer submissions (MS) of expensive technologies that impacted NICE coverage decisions. **METHODS:** An analysis of MS and Evidence Review Group reports was undertaken for 10 technologies (2007-2011) with similar route of administration and annual treatment cost. Data was obtained from the NICE website and extracted on key elements of the strengths and weaknesses of the MS. All STAs were for drugs with annual treatment costs > £8,000 per year and administered intravenously by injection or infusion. All drug treatments were long-term and indicated for a range of chronic diseases. **RESULTS:** Of the 10 STAs, 8 were recommended by NICE; 4 of the 8 recommended technologies included patient access schemes (PAS). The duration of the STAs ranged from approximately 36 to 129 weeks. Delays in the STA process were due to poor quality of submissions. Economic evaluations were either cost-utility or cost-effectiveness analyses. Excel-based Markov models were commonly used to simulate long-term processes. We identified many variations in the submitted models across different characteristics, including calculation of utility values, choice of relevant model population, type of comparator, perspective and time horizon, inclusion of sensitivity analyses, use of indirect comparison methods, and availability of systematic literature review. **CONCLUSIONS:** MS that were comprehensive, transparent, and internally consistent experience more efficient STA process and positive appraisal outcomes. Manufacturers with expensive drugs may consider including PAS in their economic evaluations as part of their submission.

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THE INDUSTRY SURVEY RESULTS REGARDING KOREA PE GUIDELINE REVISION

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As Drug Expenditure Rationalization Plan has been implemented in Korea in 2006, pharmacoeconomics (PE) guideline was developed by Health Insurance Review and Assessment service (HIRA) to appraise the economic evaluation. Since the implementation of HIRA PE guideline, various necessities have arisen by the viewers on how to practically interpret and use the guideline. **OBJECTIVES:** This survey was conducted to consolidate opinions of KRPIA (Korean Research-based Pharmaceutical Industry Association) and KPMA (Korea Pharmaceutical Manufacturers Association) on the main issues of the revision of HIRA PE guideline for new medicine. **METHODS:** The survey protocol was developed based on the experience of new drug listing by KRPIA and KPMA members and completed during May 2011 by e-mails in writing. The key anticipated outcomes were which categories of the guideline revision the member companies consider necessary **RESULTS:** Among KRPIA and KPMA member companies, 19 companies had answered. 63% (n=12) of the subjects answered they could not select the analysis method between CEA and CUA because HIRA does not appreciate their choices. Among 89% (n=17) those who selected to answer the questions regarding detailed guideline for utility study, 71% (n=12) responded they agree with the necessity of the guideline on the condition if CUA is not applicable CEA could be appreciated. Meanwhile, 26% (n=5) responded they had investigated clinical specialist or patient groups to design and conduct effectiveness or utility analysis and the most frequently used method was a question survey followed by Delphi panel and focus interview. **CONCLUSIONS:** The member companies have demands for the revision in the way of operating the economic evaluation. The key demands are creation of the manual to be followed for the conduct of economic evaluation study, flexibility of the operation in the consideration of severity of the indication, efficient and transparent management of the consultation.

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IMPLEMENTATION OF A FORMULARY MANAGEMENT PROGRAMME IN SINGAPORE

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