

## PIH37

## HEALTH STATUS AND QUALITY OF LIFE AMONG NURSES

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**OBJECTIVES:** The aim of the study was to reveal the health status, health behaviour and quality of life among the nurses working at University of Pécs. **METHODS:** 1449 health professionals at the Clinical Centre of the University of Pécs comprise the target group, from which 580 employees were chosen by stratified random sampling. The question groups of the standard self-edited questionnaire involve sociodemographic data, issues concerning the workplace and position, self-evaluation of the health status and health behaviour.  $\chi^2$ -test, ANOVA, and Kruskal-Vallis test were used with 95% probability level ( $p < 0.05$ ). SPSS version 22.0 program was applied for data analysis. **RESULTS:** The mean age was 40.5 years and 88.6% was women ( $n=413$ ). The rate of persons smoking one pocket of cigarettes at least daily was higher with employees in workshifts ( $p=0.029$ ) and nurses with lower school qualification ( $p < 0.001$ ). We measured the lowest values in the general health (mean: 60) and vitality (mean: 59) dimensions of quality of life. The highest value was measured in the physical function (mean: 88). Employees in workshifts ( $p=0.039$ ), persons between 46-62 years of age ( $p=0.014$ ), single persons ( $p=0.021$ ), and persons with poor financial situation ( $p < 0.001$ ) showed significantly worse values in the general health dimension. Those persons visiting the doctors seven or more times in the previous year ( $p < 0.001$ ), having more than 3 chronic diseases ( $p < 0.001$ ), evaluating their health condition poor ( $p < 0.001$ ), and choosing 7 or more symptoms on the psychosomatic scale ( $p < 0.001$ ) in all the eight dimensions scored significantly lower values. **CONCLUSIONS:** The quality of life among nurses is lower than that of the Hungarian healthy population. Revealing the problems and the health status of the employees may provide important information for the nursing management in order to promote the long-term maintenance of nurses' good health status and quality of life by organizational and support changes or options.

## PIH38

## REVIEW AND COMPARISON OF EQ-5D-3L VALUATION STUDIES

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**OBJECTIVES:** The aim of this study was to review existing EQ-5D-3L valuation studies and to analyse and compare methodology of the valuation and health preferences in different countries. **METHODS:** Five medical databases (PubMed, Scopus, The Cochrane Library, EMBASE and Polish Medical Library) were searched in May 2015. In the analysis only English-language reports of EQ-5D-3L valuation studies were included. Data extraction was performed on the basis of predefined checklist including for example: method of the study, number of persons included and number of valued health states. Extracted data, including, characteristics and scoring algorithms, was qualitatively and quantitatively analysed for every included valuation study. **RESULTS:** As the result of the literature search, 37 scoring algorithms were included in the analysis for 29 different countries (including Europe in general). Among them, as a method of valuation, the time trade off (TTO) and visual analogue scale (VAS) was used in 19 and 6 algorithms, respectively. Both TTO and VAS were used in 6 countries. Most studies included respondents from general population who were selected by random or quota sampling with use of face-to-face or postal surveys. The total number of valued health states varied from 7 to 198. The worst health state described as "33333" was valued from 0.340 in Sweden to -0.769 in Singapore. The largest utility decrements were associated with level 3 of mobility (in 17 of 25 countries with TTO and 8 of 12 countries with VAS). **CONCLUSIONS:** Utilities for the same health states differed among the countries. The method of valuation has potential impact on final set values. EQ-5D-3L valuation studies which were conducted to date vary in terms of the results of scoring algorithms. There is a need for further research on impact of the different utility values on cost-effectiveness analysis results.

## PIH39

## PATIENT-REPORTED OUTCOMES WITHIN HEALTH TECHNOLOGY ASSESSMENT DECISION MAKING: CURRENT STATUS AND IMPLICATIONS FOR FUTURE POLICY

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**OBJECTIVES:** In contrast to regulatory settings, research on using patient-reported outcome (PRO) data within health technology assessment (HTA) is limited. The objectives of this research were to: 1) document PRO guidance within HTA; 2) explore manufacturers' compliance with this; 3) understand the HTA body's acceptance of deviations from the guidance; and 4) identify areas of improvement within this process to close the gap between HTA and PRO research. **METHODS:** After identifying PRO-related guidance from the National Institute for Health and Care Excellence (NICE), documentation on new single technology appraisals (STAs) published throughout 2014 was reviewed to identify PRO data usage and its compliance with NICE's guidance. Reviews of existing STAs, and medical device STAs were excluded. PRO data supporting cost-effectiveness and clinical-effectiveness were explored. **RESULTS:** NICE published new guidance on 19 pharmaceutical products throughout 2014; 16 documented a recommendation. Regarding cost-effectiveness, PRO approaches mostly adhered to NICE guidance, with 87% of recommended STAs measuring health-related quality of life (HRQoL) using the EQ-5D. However, transparency regarding the valuation of HRQoL appears to be lacking; 52% of submissions did not provide the valuation method. Over half (62%) of recommended guidance documents cited PRO data to support clinical-effectiveness. Despite NICE guidance on outcome measures used to support clinical-effectiveness (requesting evidence of reliability or validity) this was only mentioned by the manufacturer for 25% of the measures used. Interestingly, neither the evidence reviewer group nor committee made any comment regarding this disconnect. **CONCLUSIONS:** Although PRO data's role in supporting cost-effectiveness is clearly guided and

adhered to, transparency issues remain. In contrast, clinical-effectiveness guidance is vague and compliance is very low which appears to be currently unrecognized as an issue. Therefore, a more stringent approach is needed when assessing PRO data within HTA, to ensure accurate measurement of treatment effectiveness to inform better decision making.

## PIH40

## CROSS-COUNTRY PROFILE OF ADULT CAREGIVERS

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**OBJECTIVES:** Estimates on the number of adult caregivers (CGs) vary in the literature. The aim of this analysis is to profile CGs across eight countries relative to non-caregivers (non-CGs) with respect to demographics, quality of life (QoL), CG burden, etc. **METHODS:** This analysis utilized cross-sectional data from the 2013 National Health and Wellness Survey (NHWS). Results from eight countries (US, France, UK, Germany, Italy, Spain, Japan, and urban China) were assessed. A stratified random sampling was used to ensure representativeness to the adult population (age 18 and over). NHWS asked adults if they are caring for an adult relative with a health condition, along with the Caregiver Rating Assessment (CRA) questions. Comparisons were conducted by country to profile CG demographics, QoL, depressive symptoms (PHQ9), and CG burden relative to non-CGs. **RESULTS:** NHWS results showed adults in Spain (11.6%) and China (10.6%) were most likely to be CGs; adults in Japan were the least (4.9%). Alzheimer's disease/dementia was the top condition of the patients (except in China, where osteoarthritis ranked highest). Other notable conditions were: cancer, stroke, osteoarthritis, and bipolar disorder. Half of CGs were women, except in China (44% were women). Overall, CGs were younger than non-CGs (mean age = 44.1 yrs vs. 46.3 yrs), especially in China (CG mean age = 38.9 yrs). QoL scores (mental and physical, and SF6D) were lower among CGs vs. non-CGs. CGs had higher rates of moderate-severe depression (26.2%) based on PHQ-9 scores vs non-CGs (13.7%). One-third of CGs said activities centered around the patient; one-fourth said finances were strained. **CONCLUSIONS:** Family members assume important roles when caring for an adult relative, which may negatively impact their own well-being and finances. Profiling the differences of CG burden by country could help illustrate the need for interventions to minimize burden.

## PIH41

## EVALUATION OF INPATIENTS' SATISFACTION IN PAFOS GENERAL HOSPITAL, CYPRUS

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**OBJECTIVES:** To evaluate inpatients' satisfaction in Pafos General Hospital, Cyprus. **METHODS:** For data collection, the EPQPPS questionnaire (Expectations, Perceived Quality, Perceived Performance, Satisfaction) was used, which is standardized and validated into the Greek language. Sample selection was based on random sampling. The questionnaire was completed via personal interviews on the day of discharge, from January to May 2014. Student's t-test and analysis of variance have been performed in order to determine the significant differences between the dimensions and sociodemographic characteristics. **RESULTS:** 150 out of 170 questionnaires were fully completed and valid and thus included in the analysis. The majority were 51 years old and over; males represented 51% of the total sample. 74.3% declared free of any chronic health condition, whereas 71% were patients with at least one previous admission in the same hospital. More than half of the respondents (54.2%) visited this hospital because it is the only one in district; the majority (65.5%) were admitted urgently and 50.7% of them underwent a surgery, declaring easy accessibility. Patients' expectations were fulfilled in 97.2% of the cases. 91.3% of the patients expressed high overall satisfaction with medical and nursing care and the majority (75%) declared high performance. The mean value of perceived quality was 7 (S.D.1.3), which translates into 'satisfied'. There were no statistically significant differences regarding the overall satisfaction in relation to the sociodemographic characteristics and the admission in different wards ( $p \geq 0.05$ ). **CONCLUSIONS:** Although Pafos General Hospital is the unique public provider in this area, patients experience easy access and they are highly satisfied with the provision of inpatient care. Similar studies should be conducted for the assessment of the overall health sector performance in Cyprus.

## PIH42

## ENGAGING PATIENTS WITH E-CLINICAL TECHNOLOGY: INCORPORATING PATIENT PREFERENCES INTO DISEASE MANAGEMENT AND CARE

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**OBJECTIVES:** An important characteristic of successful healthcare and patient participation in clinical trials is strong communication between patients and their providers. Using electronic clinical (eClinical) technology can be one mechanism for achieving this goal. This study examined subject preference for physician communication and disease management using eClinical technology. **METHODS:** 413 subjects in the U.S. with type 2 diabetes ( $n=102$ ), osteoarthritis (OA,  $n=104$ ), chronic obstructive pulmonary disease (COPD,  $n=100$ ), or depression ( $n=107$ ) were surveyed as part of a mode equivalence study. Subjects answered questions regarding their level of familiarity and use of technology, as well as preference for using eClinical technologies to improve physician communication and disease management. **RESULTS:** Subjects were diverse in age, ethnicity, and technology use. 52% of subjects have a home computer and 45% own a smartphone. In all disease cohorts, the majority of subjects were interested in using electronic methods to interact more with their physicians between visits to help manage and treat their disease (diabetes: 82%, COPD: 82%, OA: 72%, depression: 70%). Of 4 different options for using eClinical technology (email, text, clinic visit scheduling, medication reminders), subjects with diabetes and OA were more likely to prefer email and text message

communications with their healthcare providers, and subjects with depression and COPD were more likely to prefer clinical visit scheduling and medication reminders via smartphone. Subjects think that the most effective change they could make to improve their health and manage their disease is to increase communications with their physicians (40%), and monitor their symptoms and medications electronically (32%). **CONCLUSIONS:** Subjects are interested in using electronic methods to increase communication with their physicians and manage disease; preferences for specific use cases vary across different patient populations. Considering patient preference when incorporating eClinical technology may lead to increased patient engagement and ultimately improved clinical care.

#### PIH43

##### RESULTS OF THE EQ-5D-3L VALUATION PROJECT FOR IRELAND

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**OBJECTIVES:** The EQ-5D-3L is generic health status measure used as a basis for gauging public preferences regarding the severity of overall health states. This was the first such study of Irish health state preferences, and explored a number of innovative modifications to the 3L protocol. **METHODS:** 47 small areas were selected at random around the country, stratified by deprivation level; totalling approximately 520 respondents. Each respondent ranked one of three blocks of 12 health states, which were subsequently valued using Visual Analogue Scale (VAS). Ten of these were valued using the time trade-off (TTO) method (1111 and Dead were not included in this stage). A total of 28 states were included in subsequent economic modelling. A new approach to measuring worse than dead (WTD) preferences was used, which reduced the utility linearly by 0.1 units at a time (equivalent to the same leap in better than dead states). Several alternative model specifications (e.g. log-normalised interval regression, random/fixed effects and latent variable models) were considered. We also measured TTO values for experienced health states and for 30 5L states. **RESULTS:** The results of the fitted models corresponded well to each other. Interval regression appears to have had an impact on results according to the level of censoring. The Irish population was shown to place a lower emphasis on pain states than the UK or other European tariffs, implying a higher perceived quality of life in such circumstances. The changes to the protocol on how to measure WTD states resulted in less extreme values overall. **CONCLUSIONS:** This is the first valuation of health state preferences in Ireland and introduces important methodological modifications to the TTO experiment and modelling of health states. It is an important contribution to the evaluation of the QALY in Ireland and addresses some of the challenges associated with TTO valuation previously.

#### PIH44

##### PREFERENCES FOR USING PHONE CALLS, TEXT MESSAGING, AND EMAIL TO COMMUNICATE WITH PHYSICIANS AMONG PATIENTS WITH FOUR CHRONIC DISEASES

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**OBJECTIVES:** Effective patient-physician communication is critical for patient adherence, compliance, and engagement in clinical care. Technology can facilitate such communication. This study assessed how subjects with chronic conditions use and would prefer to use technology to communicate with their providers. **METHODS:** 413 subjects in the U.S. with type 2 diabetes (n=102), osteoarthritis (OA, n=104), chronic obstructive pulmonary disease (COPD, n=100), or depression (n=107) were surveyed as part of a mode equivalence study. Subjects answered questions on technology use and preferences for communicating with physicians. **RESULTS:** Subjects were diverse in age, ethnicity, and technology use. 52% of subjects reported having a home computer, 46% use internet daily, and 45% own a smartphone. Of subjects who track/monitor their disease, those with diabetes were more likely to share results with their physicians (85%) versus those with OA (69%), COPD (65%), or depression (63%). Subjects with OA were most likely (69%) to use internet searches or online forums for more information if they did not understand instructions they received from physicians versus those with diabetes (54%), depression (49%), and COPD (32%). When subjects had unanswered questions following a clinic visit, 56% preferred a phone call, 12% email, and 3% text messaging to contact their physicians. When asked how researching their health online might impact discussions with their providers, 53% of subjects across all cohorts reported they would ask more questions about medication, 51% would ask about additional treatments, and 36% would ask about alternative therapies. 80% of subjects think that researching their disease would increase discussions with their physicians. **CONCLUSIONS:** Subjects with chronic diseases currently use technology to gain knowledge about their disease and communicate with their physicians. Subjects think that using technology to research disease management promotes discussion with their physicians. Providers should consider these findings to increase patient engagement in clinical care.

#### PIH45

##### PATIENT USE OF ECLINICAL TECHNOLOGY TO RESEARCH, TRACK, AND SELF-MANAGE CHRONIC DISEASE

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**OBJECTIVES:** Consistent self-management is essential for patients with chronic diseases to improve their health. eClinical technology use may improve how patients track/manage their disease. This study determined how subjects with chronic disease use technology to monitor/manage their health and their interest in using eClinical technology in clinical care. **METHODS:** 413 subjects in the U.S. [type 2 diabetes (n=102), osteoarthritis (OA, n=104), chronic obstructive pulmonary disease (COPD, n=100), depression (n=107)] were surveyed as part of a mode equivalence study. Subjects answered questions regarding technology use for managing their disease. **RESULTS:** Subjects were diverse in age, ethnicity, and technology use. 52% of subjects have access to a computer and 50% have home internet. Subjects that use

the internet most commonly browse using a computer (62%), smartphone (28%), or tablet (10%). 46% of subjects use the internet daily. Subjects with diabetes were the most likely to monitor or keep track of their disease (69%), followed by COPD (49%), depression (46%), and OA (39%). Subjects with diabetes or OA were more likely than subjects with COPD or depression to use the internet to research their disease and/or treatments and 47% of all subjects reported doing so on at least a monthly basis. Subjects across all cohorts were most likely to research information on their current treatments (77%) followed by impact of diet on disease (68%), new drugs (42%), and disease complications (41%). With respect to their general health, subjects across all cohorts were most likely to search online for food (72%) and exercise (52%) recommendations. **CONCLUSIONS:** The extent to which subjects with chronic disease use eClinical technology to track and research health information depends in part on which disease they have. Understanding the type of health information that patients investigate online may help identify areas for more effective intervention and use of eClinical technology.

#### PIH46

##### ALIGNING PATIENT CENTRED EVIDENCE GENERATION ACROSS THE DRUG DEVELOPMENT LIFECYCLE

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**OBJECTIVES:** Patient insights ensure drug development programs are aligned with unmet needs and can help overcome access challenges pre- and post-launch. The objective of this study was to describe different approaches that can be used to capture patient input across the product lifecycle and the role they play in achieving patient access. **METHODS:** Traditional (e.g. patient reported outcomes) and non-traditional (e.g. social media) approaches to collecting patient insights were mapped into a framework modelled around Development Decision Points (DDPs) and milestones. Approaches were compared based on the relative prevalence of clinical, economic, functional, behavioural and perceptual data and the efficiency for insight generation. In addition, a retrospective analysis was conducted across 17 case studies from early-development, peri-launch and post-market programs to explore the impact of traditional and non-traditional approaches on patient access. **RESULTS:** Patient insights varied across traditional and non-traditional approaches. While both approaches generated significant clinical, economic, functional and behavioural data, there were key differences in depth and diversity of insight across each category. Non-traditional approaches, especially through passive observation, demonstrated the ability to complement traditional approaches by providing additional granularity to clinical, economic, behavioural and functional understanding of unmet needs. Due to the more informal nature of non-traditional approaches, the ability to analyse data and generate robust insights was significantly more challenging. However, the overall timelines associated with generating patient insights from non-traditional approaches were found to be significantly shorter. The case study analysis, showed the importance of non-traditional approaches in guiding traditional approaches and ultimately shaping patient access initiatives. **CONCLUSIONS:** This framework has important implications for aligning evidence requirements with unmet patient needs across the product lifecycle. Key findings from this study demonstrate that combining traditional and non-traditional approaches to collecting patient feedback can enhance the understanding of unmet needs, increase patient relevance of programs and boost research efficiency.

#### PIH47

##### KNOWLEDGE REGARDING HARMFUL EFFECTS OF CHILD VACCINATION AND REASONS OF NON-VACCINATION AMONG MARRIED POPULATION OF MASTUNG, PAKISTAN

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**OBJECTIVES:** The present study aims to assess the knowledge of married population regarding harmful effects of child vaccination and reasons for non-vaccination in District Mastung, Pakistan. **METHODS:** A questionnaire based, cross-sectional descriptive study was carried out in between May to September 2014. Married population of Mastung were asked to complete the pre-validated questionnaire. The descriptive statistics (frequencies and percentage) was used to present the data. All analyses were performed using SPSS 20.0. **RESULTS:** A total 193 married population was surveyed. The mean age of 36.98 ± 10.6. Majority of the respondents (N=122, 42.5%) consider only fever as a harmful effect of childhood vaccination. Main source of knowledge regarding harmful effects was health care providers (n=73, 33%) of participants. Unavailability of health facilities (n=69, 25.5%), lack of awareness regarding safety of vaccines (n=59, 21.9%) and lower education level (n=35, 13%) were reported main reason for non-vaccination. **CONCLUSIONS:** The study results demonstrate that the majority of the respondents were not sure about the safety of the childhood vaccination. Although the health care professionals were the main source of knowledge regarding harmful effects, yet the knowledge of participants was lower. The educational and awareness programs should be conducted to provide the correct knowledge regarding the safety of the childhood vaccines.

#### PIH48

##### CONNECTION BETWEEN THE WAY OF PARENTING AND THE BEHAVIOR OF ADOLESCENTS IN THE LIGHT OF A SURVEY IN HUNGARY

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**OBJECTIVES:** The goal of this research is to explore the connection between the way of parenting and the adolescents' satisfaction with life, belief in the sense of life, burn-out in education, conflict management skills, level of depression and evaluation of the family atmosphere. **METHODS:** The sampling was done non-random