**PIH4**

**DRUG COSTS AT THE END OF LIFE**

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**OBJECTIVES:** In a context of ageing populations and rising health care costs, it is important to explore health care costs at the end of life. The aim of this study is to quantify drug costs of patients who died at the University Hospitals Leuven in Belgium in 2006. **METHODS:** This retrospective, cross-sectional cost analysis measured drug costs related to the hospital stay during which patients died at University Hospitals Leuven in 2006. Drugs were classified at level 1 of the Anatomical Therapeutic Chemical (ATC) classification system. Drug resource utilisation was valued at unit costs pertaining to University Hospitals Leuven. The price year was 2007. Associations between drug costs and patient characteristics were investigated using the Mann-Whitney U-test. **RESULTS:** In total, 1462 patients died during their hospital stay at University Hospitals Leuven in 2006. Total drug costs related to their final hospital stay amounted to 2,970,457 €. Median costs per patient were 576 (0–48,236) €. There was no association between drug costs per patient and gender (p = 0.063). Median costs per patient were higher for patients aged under 68 years (837 €) than for patients aged over 68 years (470 €) (p < 0.001). Total drug costs were made up of blood and blood organs (ATC level B, 33% of costs), anti-infectives for systemic use (ATC level J, 31% of costs), nervous system drugs (ATC level N, 7% of costs), systemic hormonal preparations (ATC level H, 3% of costs), cardiovascular drugs (ATC level C, 2% of costs), and various other drugs (24% of costs). The 15 patients with the most expensive hospital stays generated 16% of total drug costs. **CONCLUSION:** Drug costs related to the hospital stay during which patients died were substantial. Drug resource utilization primarily related to blood and blood organs, and anti-infectives for systemic use.

**PIH5**

**COSTS AND OUTCOMES ASSOCIATED WITH USE OF RECOMBINANT FOLLICLE STIMULATING HORMONE (rFSH) DURING IN VITRO Fertilisation (IVF) TREATMENT IN A UNITED KINGDOM CENTRE**

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**OBJECTIVES:** Published cost effectiveness analyses of IVF are generally based on clinical trial data, although costs and outcomes may not be representative of usual practice. This analysis evaluated the costs and outcomes of rFSH use in usual practice in the UK. **METHODS:** Subjects were randomly selected from all women undergoing IVF or Intracytoplasmic Sperm Injection (ICSI) treatment between 2001–2007 at a single centre serving NHS and private patients in England. Women were treated with rFSH (Puregon, Organon) for ovarian stimulation, predominantly as part of an antagonist protocol. Per cycle rates of clinical and ongoing pregnancy and live birth were calculated. The costs of rFSH were calculated from pharmacy dispensing data at 2007 UK prices. **RESULTS:** Four hundred, nineteen women were included, reporting 601 treatment cycles. Mean age was 36.3 years (range 21–49). The causes of infertility were: male factor (43%); female factor (38%); unexplained or other (19%). The clinical pregnancy rate was 35.9% (95% CI 32.2–40.0%), ongoing pregnancy rate 25.0% (21.5–28.4%) and live birth rate 20.8% (17.7–24.1%). Mean duration of ovarian stimulation was 9.4 days (9.3–9.6 days). The mean per cycle rFSH dose pre-scribed was 1816 units (1775–1863) and dispensed was 1960 units (1897–2012). Mean cost of rFSH per cycle was $661 (COV $640–$679). **CONCLUSION:** UK guidelines assume the average per cycle FSH dose is 1750–2625, cost of drugs is $1000 and total cost of the cycle is $2771. By substituting FSH use derived from clinical practice, the cost per cycle could be reduced by 12%. Further research will extend this work to other centres and settings.

**PIH6**

**INPATIENT COSTS AND OUTCOMES ASSOCIATED WITH TRAUMATIC INJURY AMONG PEDIATRICS IN THE UNITED STATES**

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**OBJECTIVES:** To generate national estimates of inpatient costs, length of stay (LOS), and probability of death among US pediatric (≤17 years) hospitalizations for blunt or penetrating trauma, stratified by injury severity and trauma center designation of the admitting facility. **METHODS:** Discharge data from the 2002 HCUP Nationwide Inpatient Sample were analyzed for 55,561 pediatric hospital admissions (unweighted n = 11,566) for blunt or penetrating trauma. An injury severity score (ISS) was calculated for each admission using the ICDMP90 software; 4 mutually exclusive categories corresponding to increasing severity were identified. Data on admitting facilities’ trauma center designation were obtained from the American Hospital Association. **RESULTS:** Patients admitted at or transferred to another inpatient facility were excluded. Weighted estimates of costs, LOS, and probability of death were calculated for each stay. **RESULTS:** Most admissions (57.5%) were for low severity injuries (ISS = 0–9); critical injuries (ISS = 25+) represented 8.5% of admissions. Nearly half (44.9%) of all admissions were to non-trauma centers; Level I, II, and III/IV trauma centers represented 29.9%, 19.5%, and 4.3% of admissions, respectively. Overall, inpatient costs increased substantially with injury severity, ranging from $7,803 for low severity admissions to $34,135 for critical admissions. LOS and probability of death also increased from low to critical injury severity (3.0 to 10.7 days, 0.5% to 23.9%, respectively). Costs, LOS, and probability of death decreased from Level I to III/IV trauma centers ($14,745 to $9,170, 5.1 to 3.6 days, 3.3% to 2.9%, respectively); for non-trauma centers, these outcomes were $12,267, 4.6 days, and 2.6%, respectively. **CONCLUSION:** This is one of few studies to quantify differences in inpatient costs and outcomes for traumatic injury among pediatric patients across levels of injury severity and trauma center designation, in a multi-payer US population. Substantial variation was observed for all outcomes evaluated. These results may help decision makers allocate resources appropriately.

**PIH7**

**COST-EFFECTIVENESS OF MAGNETIC RESONANCE IMAGE-GUIDED FOCUSED ULTRASOUND (MRgFUS) FOR THE TREATMENT OF UTERINE FIBROIDS**

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**OBJECTIVES:** To evaluate the cost-effectiveness of Magnetic Resonance Image-Guided Focused Ultrasound (MRgFUS) compared to alternative treatment options for uterine fibroids from a...
resource availability. Cost-effective choice, depending on patient preferences and accepted criteria for cost-effectiveness. Any of them could be the (i.e., hysterectomy, UAE, MRgFUS) are in the range of currently SION:

Our findings suggest that, with the exception of myomec-

ence rates and procedure costs as well as assumptions about the

ty analyses indicated that results are sensitive to MRgFUS recur-

ment (16.70). Pain management was the least costly strategy

myomectomy (17.35), hysterectomy (17.18) and pain manage-

most discounted QAL Ys (17.39), followed by MRgFUS (17.36),

productivity) costs.

The model predicts total costs and quality-adjusted life years

questions. Cost data (2005 US$) were estimated from a large administrative database and supplemented with expert opinion. Analyses incorporated both direct and indirect (lost productivity) costs. RESULTS: UAE was associated with the most discounted QALYs (17.39), followed by MRgFUS (17.36), myomectomy (17.35), hysterectomy (17.18) and pain management (16.70). Pain management was the least costly strategy ($9,200 per patient), followed by hysterectomy ($19,800), MRgFUS ($27,300), UAE ($28,900), and myomectomy ($35,100). Incremental cost-effectiveness ratios (cost per QALY gained) were $21,800 for hysterectomy, $41,400 for MRgFUS, and $54,200 for UAE; myomectomy was both more costly and less effective than MRgFUS and UAE (i.e., dominated). Sensitivity analyses indicated that results are sensitive to MRgFUS recurrence rates and procedure costs as well as assumptions about the quality-of-life decrement following hysterectomy. CONCLU-

SION: Our findings suggest that, with the exception of myomec-

tomy, currently available treatment options for uterine fibroids (i.e., hysterectomy, UAE, MRgFUS) are in the range of currently accepted criteria for cost-effectiveness. Any of them could be the cost-effective choice, depending on patient preferences and resource availability.

COST EFFECTIVENESS MODELLING OF ENZYME REPLACEMENT THERAPY FOR MUCOPOLYSACCHARIDOsis II: An Ultra-Orphan Disease

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OBJECTIVES: The purpose of this study was to evaluate the cost effectiveness (cost utility) of idursulfase (Elaprase) treatment of people with Mucopolysaccharidosis II in the UK. METHODS: Mucopolysaccharidosis II (MPS II; also referred to as Hunter’s Syndrome) is an ultra-orphan lysosomal storage disorder that reveals itself around the age of 3 years and leads to disabling clinical manifestations and early death. Enzyme replacement therapy (ERT) using idursulfase was compared to palliative care, as no other pharmacological treatment is available. A cost utility cohort model was developed using utility assumptions drawn from the literature. Data were derived where possible from the idursulfase pivotal trial, from published literature and from historical records of the UK MPS Society. Where data was not available, reasonable assumptions were made, with varying scenarios employed as sensitivity analyses. Current palliative care employs physiotherapy, oxygen and care by parents, but varies by severity of the disease. This lack of consistent approach to palliative care meant that no direct cost could be assigned. Due to little clinical experience, only three disease states were considered: idursulfase-treated, palliative care, and death. The maximum time horizon was 15 years to account for the chronic nature of the disease and to encompass the benefits of idursulfase treatment, which are be expected to change the course of the disease over the long term. Costs were calculated from UK 2007 prices. Costs and benefits were discounted annually at 3.5%. RESULTS: The model showed a discounted incremental cost effectiveness ratio (ICER) over palliative care of GBP564,692 per quality adjusted life year (QALY). Sensitivity analyses showed that the two key drivers of the ICER are quality of life and mortality. CONCLUSION: Although high, the ICER for MPS II is consistent with other orphan diseases treated with ERT, such as Gaucher’s and Fabry’s diseases.

ESTIMATION OF HEALTH CARE PROFESSIONALS’ TIME INPUT USING MULTI-DIMENSIONAL WORK SAMPLING (MDWS)

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OBJECTIVES: The Fleetwood model is a holistic approach to structured pharmaceutical care in the nursing home setting. It has been adapted for use in the UK and is currently being tested in NI in a randomised controlled trial. The aim of this study was to use MDWS to provide estimates of resource usage for inclusion in a cost model. METHODS: Pharmacists providing the adapted Fleetwood pharmaceutical care service to nursing home residents completed an activity classification sheet (previously developed and piloted), comprising 15 main categories. This provided information on the type of activity undertaken, time taken and whether it was related to ‘cycle 1’ (initial pharmaceutical care plan development) or subsequent cycles. Data reported is for 9 pharmacists during the first three cycles carried out in 11 intervention homes. RESULTS: Actual resource utilisation was significantly different to estimates used to obtain funding. It was estimated that ‘cycle 1’ would involve 3 hours of pharmacist time per nursing home resident and last 30 days, and that each subsequent cycle would involve 1 hour per month (30 days) per resident. The actual total time spent was 46.1% of that estimated, and the average cost per resident was 39% ($92.31 ± 33.83 vs. $236.74 ± 15.70). Significantly more time than estimated was required to complete a cycle; the longest cycle length occurred in cycle 1 (170 days) with 30.2 hrs ± 5.16 spent in each home delivering the service to 15.7 ± 2.2 residents. Semi-professional or non-professional activity accounted for 71.5% of total time in cycle 1. CONCLUSION: MDWS enabled a more accurate picture of pharmacist activities and estimates of time input for inclusion in the cost model. This information is important in planning service development and delivery, as non-or semi-professional activities could be delegated to pharmacy support staff.

INDIVIDUAL’S HEALTH—Health Care Use & Policy Studies

AN ECONOMIC ASSESSMENT OF THE CONTENT OF HOME PHARMACIES AND SELF MEDICATION PRACTICE AMONG FAMILIES IN SLOVAK REPUBLIC AND SERBIA CITIES

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OBJECTIVES: The practice of drug keeping in homes and self medication is well recognised problem. The aim of our work was to compare pharmacotherapeutical and pharmacoepidemiologi-