testing/delivering and definition of the CL test threshold. The values obtained were LR+ 3,98/LR- 0,33 (FN) and LR+ 2,22/LR- 0,54 (CL). For the whole hypothetical cohort the total costs of the FN and CL were 2,3 billion and 890 million, respectively. The difference of avoided hospitalizations between the tests was 244 for FN. ICER was BRL 5,834,35. **CONCLUSIONS:** Both diagnostic tests are important alternatives for the detection of premature birth in Brazil. Studies of prediction of preterm delivery using CL have important limitations beyond the fact that CL measure is an operator/machine dependent procedure. In women with symptomatic preterm labor FN is a cost-effective test strategy for prediction of preterm births.

PIH23

COST-EFFECTIVENESS OF VACCINATION AGAINST HERPES ZOSTER AND POSTHERPETIC NEURALGIA: A CRITICAL REVIEW

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OBJECTIVES: To systematically review cost-effectiveness studies of vaccination against herpes zoster (HZ) and post-herpetic neuralgia (PHN). **METHODS:** We searched MEDLINE and EMBASE databases for eligible studies until June 2013. We extracted information regarding model structure, model input parameters, and study results. We compared the results across studies by projecting the health and economic impacts of vaccinating 1 million adults over their lifetimes. **RESULTS:** We identified 14 cost-effectiveness studies performed in North America and Europe. Results ranged from approximately US$10,000 to US$100,000 per quality-adjusted life years gained, though most studies in Europe concluded that zoster vaccination is likely to be cost-effective. All studies used similar model structure. Differences in results among studies are largely due to differing assumptions regarding duration of vaccine protection and a loss in quality of life associated with HZ and to a larger extent, PHN. In addition, studies found that vaccine efficacy against PHN, age at vaccination, and vaccine cost strongly influenced the results in sensitivity analysis. **CONCLUSIONS:** Our review generally supports the economic value of this preventive intervention, particularly in Europe, which will become increasingly important as population ages. Future research addressing key model parameters and cost-effectiveness studies in other parts of the world are needed.

PIH24

AN ECONOMIC EVALUATION ALONGSIDE A CLINICAL TRIAL (EEACT) IN PELVIC FLOOR MEDICINE

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OBJECTIVES: To determine the cost-effectiveness of using an online questionnaire (ePAQ-PF) in combination with a telephone consultation compared to standard care. **METHODS:** All women, aged ≥ 18 years and referred to urogynaecology services in Sheffield were eligible. Women completed ePAQ-PF online and then received a telephone consultation (intervention), or face-to-face consultation (standard care). Costs for ePAQ-PF completion and consultation were derived in a microcosting study. Resource use data were collected at 6-months follow-up. The SF-12 was administered at baseline and follow-up. SF-6D estimates were used to calculate quality-adjusted life-years (QALYs). Patient experience was measured by the Patient Experience Questionnaire and Client Satisfaction Questionnaire. **RESULTS:** A total of 195 women were randomised. Consultation costs for the intervention group (£31.75) were lower than for the control (£72.17). The intervention group incurred greater direct costs and personal expenditure during follow-up. However lower costs associated with productivity loss for the intervention group resulted in lower indirect costs per-patient. Mean total costs per-patient were £38.04 greater in the intervention group (£1,139.86) than the control (£1101.82). SF-6D scores reduced slightly during follow-up for the intervention group, and increased slightly for the control, resulting in QALY loss for the intervention group, and QALY gains for the control. Statistically significant gains in patient experience were identified for the intervention group, although in strict cost-utility terms the intervention was dominated by the control. Incremental costs and QALYs resulted in a negative incremental cost-effectiveness ratio (ICER). **CONCLUSIONS:** Although the intervention was not cost-effective compared to the controls, there was a significant difference in an important aspect of the care process, which was not captured by the ICER. This highlights the importance of decision makers accounting for intervention effects that fall outside the conventional conceptualization of the QALY. Methods could be developed that allow non-health effects, such as process utility, to be incorporated into the QALY.

PIH25

PHARMACOECONOMIC ANALYSIS OF PROGESTOGEN PREPARATIONS FOR THREATENED ABORTION TREATMENT IN UKRAINE

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OBJECTIVES: Comparative evaluation the cost effectiveness of threatened abortion treatment by two regimens: oxyprogesteronicaproas and dydrogesterone in Ukraine. **METHODS:** Pharmacoeconomic analysis was based on the results of comparative randomized trial (Belousov Yu. B., Karpov O.I., Ailamazian E.K., 2008). Two regimens for threatened abortion treatment: oxyprogesteronicaproas and dydrogesterone were evaluated. Treatment with dydrogesterone (20 mg per day or 2 tablets per day) was carried out during 8 weeks before closure forming placenta (56 days). Oxyprogesteronicaproas (250 mg per day) was used from 14 to 20 weeks of gestation (42 days). For determining the cost of therapy only the cost of drugs and auxiliary materials (syringes, alcohol) for both schemes were taken into account. The prices of drugs were taken from the information system “Drugs” of Company “Morion” (February, 2013, Ukraine). The currency ratio of UAH to dollar (USA) on 01.02.13 was 8,12:1. As an indicator of efficacy the number of saved pregnancy after treatment was used. **RESULTS:** The effectiveness of oxyprogesteronicaproas therapy was 88.6%, and dydrogesterone - 96.3%, the cost of treatment was $ 78.63 and $ 77.96 respectively. Cost-effectiveness ratio was $ 88.7 for oxyprogesteronicaproas and $ 80.9 for dydrogesterone. **CONCLUSIONS:** Cost-effectiveness analysis shown, that the use of dydrogesterone is more effective and less costly for threatened abortion treatment in Ukraine. The results of pharmacoeconomic analysis will optimize the government, insurance companies and patients cost.

PIH26

COST-EFFECTIVENESS OF INFANT PNEUMOCOCCAL VACCINATION IN THE NETHERLANDS

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OBJECTIVES: The Dutch National Immunization Program offers the 10-valent pneumococcal conjugate vaccine (PCV10). Also licensed for use in the infant population is the 13-valent PCV (PCV13). To update cost-effectiveness (CE) estimates of PCV13 over PCV10, using current epidemiological and economic data. **METHODS:** We modeled vaccinating a birth cohort with either PCV10 or PCV13 (3+1 dose schedule), and calculated costs and effects linked to resulting disease. We modeled invasive pneumococcal disease (IPD), non-invasive pneumonia and acute otitis media, and considered death and lifetime impairments after IPD. We calculated direct effects in the vaccinated cohort and indirect effects –herd immunity for the vaccine-type (VT) serotypes and replacement for the non-VT serotypes– in the rest of the population. Since no price is available, we use a price difference of €11 per dose and vary this price difference in sensitivity analyses. Epidemiological and economic data are taken as current as possible. A set of scenarios explore different assumptions, including different sets of epidemiological data, assumptions on vaccine efficacy and indirect effects. **RESULTS:** Taking only direct effects into account PCV13 cannot be considered cost-effective, unless the price difference is much lower than €11 per dose. In three scenarios, PCV10 dominates PCV13; in the other scenarios the ICER is between €89000 and €153000 per QALY gained. If indirect effects are also taken into account, the ICER of PCV13 compared to PCV10 is below € 20,000 per QALY for all scenarios. Scenarios do not have a large impact on the policy decision, unless we assume extra efficacy of PCV10 against non-typeable Haemophilus influenzae. **CONCLUSIONS:** Replacing PCV10 with PCV13 is not likely to be cost-effective in preventing invasive pneumococcal disease in young children. Taking potential benefits in elderly into account, PCV13 is likely cost-effective. The CE of PCV13 was highly sensitive for indirect effects our analysis.

PIH27

COST-MINIMIZATION ANALYSIS OF DIENOGEST VERSUS GONADOTROPHIN-RELEASING HORMONE ANALOGUES OR DYDROGESTERONE FOR ENDOMETRIOSIS TREATMENT IN RUSSIA

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OBJECTIVES: To perform pharmacoeconomic evaluation of dienogest vs gonadotrophin-releasing hormone analogues (GnRHa) or dydrogesterone for endometriosis in Russia. **METHODS:** Literature search did not reveale clinically significant differences in efficacy between dienogest 2 mg and GnRHa in terms of pain reduction associated with endometriosis. There was no difference in efficacy with dydrogesterone 60 mg once daily and placebo. Cost-minimization analysis was used to assess and compare drug costs of dienogest 2 mg daily, GnRHa - most often used in Russia including triptorelin, leuprorelin, buserelin (with obligatory application of add-back therapy for all three GnRHa) and dydrogesterone. Costs were calculated for a period of 6 months. **RESULTS:** Costs of endometriosis treatment per patient per 6 months were 1102€ for triptorelin, 1118€ for leuprorelin, 340€ for buserelin, 369€ for dydrogesterone and 295€ for dienogest. Dydrogesterone is less effective and more costly alternative in comparison with buserelin and dienogest. Among alternatives with the same efficacy dienogest is the most efficient option leading to savings from 74€ to 823€ per patient in 6 months. **CONCLUSIONS:** Using dienogest for treatment of endometriosis in Russia is as effective as using GnRHa but can lead to considerable cost savings because add-back therapy is not required.

PIH28

COST MINIMIZATION ANALYSIS OF THE DIENOGEST USE IN PATIENTS WITH ENDOMETRIS UNDER BRAZILIAN PUBLIC AND PRIVATE PERSPECTIVE

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OBJECTIVES: To provide the results from a cost-minimization (CM) model that compares the use of dienogest with the use of GnRH antagonist (GnRHa) leuprorelin acetate, both for 6 months, in women with endometriosis-associated pelvic pain (EAPP) in Brazil. **METHODS:** A(CM) model was developed in the form of a decision tree to mimic treatment sequence in Brazil. The analysis was conducted under the private and public payer perspectives, only direct costs were included, procedures and drug costs were obtain from Brazilian official databases of public and private health care system fees. This CM model compared different treatment pathways for women with EAPP and used a 50% improvement in pelvic pain as a definition of a treatment responder to elicit treatment duration. Treatment response assessment was at 12 week period. Two basic treatment pathways were defined: a two treatment sequence (2TS) and tree treatment sequence (3TS). The 2TS consists of: GnRHa/dienogest followed by surgery. The 3TS consists of: GnRHa/dienogest, dienogest/GnRH as second treatment and surgery as final option. Subsequent treatments were only for patients that did not respond to previous treatment. Discount was not applied as costs occurred within 1 year period. **RESULTS:** The CM model shows that for both treatment pathways and perspectives dienogest is a cost-saving alternative. Under private payer perspective for 2TS and 3TS: BRL 1020.42 VS BRL 2328.94 and BRL 1461.22 VS BRL 2377.52 for dienogest and GnRHa respectively. Under public payer perspective for 2TS and 3TS: BRL 882.74 VS BRL 768.13 and BRL 942.18 VS BRL 856.77 for dienogest and GnRHa respectively. Efficacy for 2TS and 3TS are: 91.58%

and 97.87% respectively. **CONCLUSIONS:** This analysis portends dienogest as a cost-saving alternative for the treatment of EAPP compared to GnRHa in Brazil from the public and private payer perspective.

PIH29

INVESTIGATING THE IMPACT OF MENTAL HEALTH STATUS ON HEALTH AND SOCIAL CARE COSTS OF OLDER PEOPLE AFTER ACUTE HOSPITAL ADMISSION

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OBJECTIVES: In England, nearly two-thirds of older people in acute hospital care suffer from co-morbid physical and mental health conditions. This study investigated the health and social care costs for a group of older (70+) people identified with a mental health condition after hospital admission. **METHODS:** The Better Mental Health (BMH) study recruited 247 patients at hospital admission in Nottingham, England. Electronic administrative records were sought for six months post-admission from health (services: general practices, hospitals, ambulance transport, intermediate and mental health care) and social care. The cohort was characterised by one or more aspects of mental health: cognitive impairment, depression, delirium, and neuropsychiatric health. Differences in mean cost between groups were assessed using t-tests; association between mental health and service-level cost was investigated using GLM regression. **RESULTS:** Health and social care costs were derived for all 247 participants, except primary care, derived for 122 (subset) participants due to GP recruitment. In the subset, mean (95% CI, median, range) total cost was £9842 (8573-11256, 7717, 715-48795). Mean cost (95% CI) for mental health care was significantly ($p<0.05$) higher for patients: with depression than without (£194 (106-322) Vs. £55 (17-111)); bottom-50% on the neuropsychiatric health scale (£202 (124-298) Vs. £55 (16-118)). Patients with delirium, compared to without, had significantly lower costs for GP consultations (£316 (196-492) Vs. £552 (429-701)) and hospital outpatient visits (£333 (253-444) Vs. £497 (400-621)). The GLM did not identify a significant association between aspects of mental health and service-level costs. **CONCLUSIONS:** This study suggests a person's mental health affects consumption of some, but not all, services evaluated. In general, these patients are costly, high resource-users, of health and social care services; however, this consumption pattern cannot be attributed to one particular aspect of mental health. Future work should investigate the impact of physical *and* mental health comorbidities on resource-use.

INDIVIDUAL'S HEALTH – Patient-Reported Outcomes & Patient Preference Studies

PIH30

MEDICATION ADHERENCE AND ADVERSE HEALTH OUTCOMES IN COMMUNITY DWELLING OLDER PATIENTS

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OBJECTIVES: To determine the association between medication adherence and adverse drug events (ADEs), health related quality of life (HRQOL) and hospitalisation in older community dwelling patients. **METHODS:** A retrospective cohort study of 855 patients aged ≥70 years from 15 general practices in Ireland in 2010. Medication adherence was measured by: (i) the Medication Possession Ratio (MPR) using national pharmacy claims dispensing data; and (ii) self-report using the Morisky Medication Adherence Scale. ADEs and hospitalisation were measured by patient medical record and self-report for the previous 6 months. ADEs were reviewed by two independent clinicians. HRQOL was measured using EQ-5D. Multilevel Poisson and linear regression were used to examine how the number of ADEs, utility and hospitalisation varied by adherence after adjusting for patient and practice level covariates; socioeconomic status, deprivation, co-morbidity, number of drugs, functional disabilities, social support and health insurance. **RESULTS:** A total of 592 (69%) patients were adherent based on dispensed pharmacy claims data (MPR ≥80%) and 553 (63%) self-reported adherence to their medication. The median MPR for self-reported adherent patients was 0.88 (IQR: 0.78, 0.95) compared to 0.86 (IQR: 0.71, 0.93) for non-adherent patients ($p<0.01$). Non-adherence (MPR<80%) was not significantly associated with any ADEs but self-reported non-adherent patients had an increased risk of any ADEs (IRR 1.18; 95% CI 1.05, 0, 1.33 $p<0.01$). Non-adherent patients had a significantly lower mean HRQOL utility (MPR coefficient, -0.11, SE 0.03, $p<0.001$; self-report coefficient, -0.06, SE 0.01, $p<0.001$) and an almost two-fold increased risk in the expected rate of any hospitalisation (MPR IRR, 1.75; 95% CI, 1.42, 2.15, $p<0.001$; self-report IRR, 1.53; 95% CI, 1.16, 2.01, $p<0.01$) compared to adherent patients. **CONCLUSIONS:** Non-adherence was significantly associated with adverse health outcomes. Developing methods to assist older adults in accurate and safe management of their medications may increase their quality of life.

PIH31

VALIDATION OF ACCEPT, A NEW GENERIC MEASURE TO ASSESS HOW PATIENTS WITH CHRONIC DISEASES BALANCE BETWEEN THE ADVANTAGES AND DISADVANTAGES OF FOLLOWING THE RECOMMENDED TREATMENT REGIMEN IN REAL-LIFE

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OBJECTIVES: To reduce, score, and validate the Accept questionnaire. **METHODS:** Accept is a 32-items PRO questionnaire measuring the concept of Acceptance. It was developed based on grounded theory and qualitative research. Each treatment characteristic was assessed on a response scale opposing "easy to accept" to "not easy to accept". We conducted an observational prospective study on 182 subjects engaged in long-term treatment regimen. Adult patients where consecutively recruited by a network of pharmacists when prescribed with a drug indicated in various chronic diseases (including asthma, diabetes, various cardio-vascular diseases, retroviral infections, osteoporosis). Patients were asked to complete Accept and MMAS-4 questionnaires at Month 1, 3 and 6 after having given their informed consent. The structure was explored through PCA, and confirmed with multi-trait analysis. Internal consistency reliability of dimensions was assessed through Cronbach's alpha. Scale-scale correlations were calculated. **RESULTS:** After reduction, Accept was made of 25 items organised in 1 overall Acceptance score and 6 domain-specific scores (efficacy, tolerance, convenience, constraints, treatment duration, multiple medication). Cronbach's alpha was 0,85 for overall Acceptance score, which met convergent and divergent validity criteria (both 100%). The domain-specific scores showed satisfactory to good results (Cronbach's alpha ranging from 0,67 - 0,87, convegrent validity ranging from 63% to 100%, and divergent validity ranging from 33% - 100%). Scale-scale correlations ranged from 0.02 to 0.58, confirming the multi-dimensional nature of the questionnaire. The good properties of Accept were stable over time. **CONCLUSIONS:** Accept is a brief, comprehensive, generic questionnaire focused on Acceptance. Initial validation in a population of patients with a wide range of long-term treatment showed promising results and confirmed the position of Acceptance. Further, disease-specific, large prospective study are needed to assess the ability of Accept to predict persistence to treatment.

PIH32

DETERMINANTS OF NON-ADHERENCE TO MEDICATIONS AMONG CHRONIC PATIENTS IN MACCABI HEALTH CARE SERVICES

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OBJECTIVES: Implementation of co-payments may reduce the use of essential medications, worsen patients' outcomes, and increase overall health care costs. The aim of this study was to examine to what extent non-adherence of chronic patients to medication stems from financial reasons and what determinants are associated with non-adherence. **METHODS:** A telephone survey was conducted among a representative sample of Maccabi Healthcare Services chronic patients aged ≥55 yrs (n=522). Respondents were defined as non-adherent if they reported they had stopped taking prescribed medications in the previous year and/or not purchasing prescribed medications due to its cost. Additional information collected included: age, gender, income, receiving explanation from a physician regarding the therapy, and out-of-pocket expenditure for prescribed medications. **RESULTS:** Mean age of the study population was 69.9±9.0 yrs (53% were male). Sixteen percent of respondents were defined as non-adherent, in 60% of them it was due to medication's cost. No significant differences were found between adherent and non-adherent respondents with regard to: age, gender, family status, country of birth, supplementary insurance coverage, or education. In a multivariable logistic regression model, non-adherence was associated with: lack of physician explanation about prescribed medications (OR=2.88, 95%CI: 1.46-5.68, P=0.002); higher out-of-pocket expenditure on medications (OR=1.93, 95%CI: 1.04-3.61, P=0.04), and lower household income (OR=0.81, 95%CI: 0.69-0.96, P=0.01). **CONCLUSIONS:** Information provided by physicians is associated with adherence of chronic patients to prescribed medications. Low income and high out-of-pocket expenditure for prescribed medication are associated with non-adherence. Since adherence is strongly affected even by a relatively low and flat co-payment as applied in Maccabi Healthcare Services, health policy makers may consider adoption of value-based co-payments that are differentiated by treatment value rather than by its cost, and targeted mainly at chronic patients. This approach may lead to improved adherence and outcomes with the potential of reducing long-term costs.

PIH33

COST-EFFECTIVENESS OF MEDICATION ADHERENCE ENHANCING INTERVENTIONS: A SYSTEMATIC REVIEW

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OBJECTIVES: In light of the presumed costs of non-adherence to medication and the pressure to reduce unnecessary health care expenditures in the current economic climate, a review that assesses evidence of cost-effectiveness of adherence enhancing interventions would be timely. The objective of this paper is to examine the cost-effectiveness of adherence enhancing interventions and the quality of the studies reviewed. **METHODS:** MEDLINE, PsycInfo, EconLit and the Centre for Reviews and Dissemination databases were searched for randomised controlled trials that performed full economic evaluations of adherence enhancing interventions. Information was collected on study characteristics, cost-effectiveness of treatment alternatives, quality of economic evaluations, and risk of bias. **RESULTS:** Fourteen studies were included, of which the overall quality was found to be moderate. Five used a societal perspective, eight a provider perspective, and a single study used a patient perspective. Ten studies examined interventions that were both more costly and more effective than usual care, and four were less costly and more effective. Comprehensive evidence from the societal perspective yielded disappointing results for potential cost-effectiveness of adherence interventions. Studies from other perspectives provided weak to moderately promising evidence that adherence interventions can be cost-effective. **CONCLUSIONS:** Few randomised controlled trials examined the cost-effectiveness of adherence interventions. There was limited evidence of potential cost-effectiveness of adherence programmes. Most interventions did not report whether their intervention was effective in the first place, and many suffered from methodological limitations. To demonstrate that adherence interventions offer societal benefits, we recommend that the most promising interventions are subjected to a rigorous cost-effectiveness evaluation.

PIH34

A SYSTEMATIC REVIEW OF PATIENT PREFERENCES FOR SUBCUTANEOUS MEDICATIONS

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