impacts in children and is currently being evaluated for use in adults in the Czech Republic (CR). The objective of this study was to assess the cost-effectiveness of pneumococcal vaccination strategies in the elderly population. **METHODS:** A first-order Markov decision-analytic model was developed to compare cost-effectiveness of vaccination with PCV13, PPSV23 and no vaccination in the Czech Republic. PPSV23 effectiveness was derived from literature and PCV13 was extrapolated from impact in children adjusting for immunosenescence in older persons. Pneumonia, bacteremia and meningitis hospitalization and cost data were acquired from health authorities and DRG system in CR; outpatient data were based on retrospective patient survey. The model used a lifetime time horizon and 3% discount rate. **RESULTS:** Used according to Czech guidelines, PCV13 vaccination is associated with 0.0002 life-years gained for an additional EUR 1.002 on average (EUR 3,812,478 in total) compared to no vaccination and 0.0004 life-years gained for additional EUR 0.97 on average (EUR 3,704,061 in total) compared to PPSV23. This leads to an ICER of EUR/LYG 4,950 and 2,265 under current reimbursement. If all moderate and high risk people were vaccinated, the ICER would increase to EUR/LYG 5,582 and 6,691, respectively, under current reimbursement and to ICER of EUR/LYG 8,676 and 7,057 under full reimbursement. **CONCLUSIONS:** Confronting the national GDP per capita with the WHO recommendation on health care spending per QALY gained, PCV13 national immunization program in the Czech Republic can be considered cost-effective even under a full reimbursement policy.

PIH24

COST IMPACT OF A COMPREHENSIVE STI SCREENING STRATEGY, INCLUDING CHLAMYDIA, GONORRHEA AND TRICHOMONIASIS: A US PAYER PERSPECTIVE

Hertz D[1], Mehringer M[2], Sulham K[1], Garfield S[1]
[1]*GfK Bridgehead, Wayland, MA, USA,* [2]*Hologic Gen-Probe, San Diego, CA, USA*

OBJECTIVES: Chlamydia (CT), gonorrhea (GC) and trichomoniasis (TV) screening can be conducted simultaneously on a single sample using nucleic acid amplification testing (NAAT). NAAT has made screening faster and more sensitive. Targeted CT/GC screening has long been supported by clinical guidelines (USPSTF, CDC, and ACOG) and research has shown screening to be cost-effective from a health-system perspective. Despite this, testing rates are low (estimated at 38% by the CDC). Here, we explore the clinical and economic impact of increasing adherence to screening guidelines for CT/GC and the introduction of TV screening from a US payer perspective. **METHODS:** A decision-tree cost-impact model was developed to compare current screening rates for CT/GC with a hypothetical increase in CT/GC screening uptake and the addition of TV screening in women 15-24yrs. with high-risk sexual behavior. Model components included testing, treatment, confirmation of eradication, and adverse events for women 15-24. Inputs were based on published literature. The model examines member cost (excluding partner transmission) and clinical impact of an increase in screening uptake over 1 year. **RESULTS:** For a hypothetical member population of 5.0M, with a baseline CT/GC/TV prevalence of 4.7/2.2/8.4%, increasing CT/GC screening uptake by 10% and adding simultaneous TV screening has an incremental cost per additional STI detected over a 5-year, 7-year, and lifetime time horizon of $376.18, $272.26, and $30.01, respectively. The incremental cost per adverse event avoided was $2,239.00, $1,541.86, $182.22, respectively. Lifetime adverse events avoided (discounted) include: 215 cases of PID, 93 PID-related sequelae, 14 adverse pregnancy outcomes and 0.8 HIV cases. **CONCLUSIONS:** Given its high prevalence, high rate of asymptomatic cases and the severity of the health consequences, TV should be considered as part of a comprehensive STI screening strategy. Increasing targeted screening for CT/GC/TV could be a cost-effective way of improving women's health and a health plan's quality of care.

PIH25

COST-EFFECTIVENESS OF VAGINAL PROGESTERONE GEL IN REDUCING PRETERM BIRTH: A DECISION ANALYTIC MODEL BASED ON THE PREGNANT RANDOMIZED CLINICAL TRIAL

Pizzi LT[1], Seligman N[2], Baxter J[3], Jutkowitz E[4], Prioli KM[1], Mearns E[5], Berghella V[3]
[1]*Thomas Jefferson University, Philadelphia, PA, USA,* [2]*University of Rochester Medical Center, School of Medicine and Dentistry, Rochester, NY, USA,* [3]*Jefferson Medical College, Philadelphia, PA, USA,* [4]*University of Minnesota, Minneapolis, MN, USA,* [5]*Jefferson School of Pharmacy, Philadelphia, PA, USA*

OBJECTIVES: Preterm birth (PTB) is a costly public health problem that causes significant neonatal morbidity and mortality. To determine cost-effectiveness of vaginal progesterone (VP) gel in the prevention of preterm birth (PTB), we developed a decision analytic model using data from the PREGNANT trial. **METHODS:** PREGNANT was a multi-center, international RCT in which 459 women with singleton gestations and short cervix (10-20mm by transvaginal ultrasound) were randomized to daily VP 8% gel (n=235) or placebo (n=224). Patient-level trial data along with cost data from the literature were used to develop the model (TreeAge Pro 2011). Births were categorized by gestational age at delivery: PTB at <28 weeks, PTB at 28-31 weeks, PTB at 32-36 weeks, or full term (≥37 weeks). Costs ($US 2011) included cervical length screening, VP gel (treatment group only), antenatal hospitalizations, cerclage, and delivery hospitalization (maternal + neonatal costs). The main outcome measure was incremental cost-effectiveness, calculated as the difference in total costs between the VP gel group and the placebo group, divided by the difference in the number of PTB averted between the VP gel group and the placebo group. A probabilistic sensitivity analysis (PSA) with 10,000 simulations was used to determine cost-effectiveness when both cost and outcome data were varied within defined limits. **RESULTS:** Model base case incremental savings for VP were $12,354 and an incremental benefit of VP was 0.042 PTB averted (ICER=$21,063/PTB averted). The PSA indicated that VP gel is expected to be less costly and more effective than placebo in 79.2% of simulated cases, however, less costly but ineffective in 16.8% of simulated cases. **CONCLUSIONS:** VP gel is cost-effective in the prevention of PTB in women with short cervix as compared to placebo in most cases. Results inform ongoing clinical controversies regarding the value of VP as a preventive modality for PTB.

PIH26

HEALTH ECONOMIC EVIDENCE IN SUPPORT OF A LONG-ACTING REVERSIBLE CONTRACEPTIVE METHOD: LNG-IUS-12, A LOW-DOSE CONTRACEPTIVE LEVONORGESTREL INTRAUTERINE SYSTEM

Trussell J[1], Hassan F[2], Henry N[2], Law AW[3], Pocoski J[3], Filonenko A[4]
[1]*Princeton University, Princeton, NJ, USA,* [2]*IMS Health, London, UK,* [3]*Bayer HealthCare Pharmaceuticals Inc, Wayne, NJ, USA,* [4]*Bayer Pharma AG, Berlin, Germany*

OBJECTIVES: LNG-IUS-12 is a low-dose hormonal intrauterine contraceptive system for up to 3 years of use. This analysis aimed to evaluate the cost-effectiveness of LNG-IUS-12 in comparison to short-acting reversible contraceptive (SARC) methods in a cohort of young women in the United States (US) from a third-party payer's perspective. **METHODS:** A state-transition model was developed to assess cost-effectiveness of LNG-IUS-12 versus SARC methods over 3 years in 1000 women aged 20-29 years, the age group accounting for over half of all abortions in the US. SARC methods comprise of oral contraceptives, ring, patch and injections – methods commonly used by this cohort. The model consisted of three mutually exclusive health states: initial method, unplanned pregnancy (UP) and subsequent method. Subsequent method is represented by a mixed market-weighted contraceptive 'basket'. Failure and discontinuation rates were based on published literature. Unit costs were taken from standard US databases. Cost and effectiveness metrics for SARC were weighted using market share data. The key model output was cost per UP avoided. One-way sensitivity analyses (OWSA) and probabilistic sensitivity analyses (PSA) were performed. **RESULTS:** LNG-IUS-12 dominated SARC, resulting in fewer UP (65.26 vs. 278.97) and lower total costs ($1,274,295USD vs. $1,822,836USD, a 43% saving) over 3 years. The costs associated with subsequent method used by women who initiated LNG-IUS-12 were lower ($107,587USD vs. $230,024USD) due to lower failure and discontinuation rates of LNG-IUS-12. OWSA results were insensitive to variation in key input parameters. PSA results indicate a high probability of dominance as all iterations were less costly and more effective. **CONCLUSIONS:** From a third-party payer perspective, LNG-IUS-12 is a more cost-effective contraceptive option than SARC. Therefore, women switching from current SARC use to LNG-IUS-12 are likely to generate cost savings to third-party health care payers, driven principally by decreased UP-related expenditures and long-term savings in contraceptive costs.

PIH27

COST EFFECTIVENESS ANALYSIS OF MEDICAL MANAGEMENT OF INCOMPLETE MISCARRIAGES IN THE BAHAMAS

Sakharkar P[1], Sakharkar V[2]
[1]*Roosevelt University College of Pharmacy, Schaumburg, IL, USA,* [2]*University of the West Indies, School of Clinical Medicine & Research, Nassau, Bahamas*

OBJECTIVES: About 30% of all pregnancies end in first trimester and half of them present as an incomplete miscarriage. It is a significant health issue raising economic burden on the publicly funded health care system in the Bahamas. Surgical evacuation is the most commonly used treatment which involves operating theater and inpatient costs in cases of complications like cervical trauma, uterine perforation, hemorrhage and infection. The objective of this study was to conduct a cost effectiveness analysis (CEA) of medical management (Misoprostol) versus surgical procedure in the management of incomplete miscarriages in the Bahamas, from a societal perspective. **METHODS:** Cost and probabilities of outcomes were derived from the hospital data and published literature. Cost of medical and surgical management included direct & indirect costs viz. physician cost, procedure cost, cost of ultrasounds, drug cost, cost of hospital stay, complications & adverse events; loss of wages and cost of travel. Primary outcomes were treatment success and failure. A one way sensitivity analyses were conducted by varying the cost and success by 25% & 15%, respectively. **RESULTS:** The CEA showed that, medical management (US$719 per patient) was the least costly alternative to surgical procedure (US$2,135 per patient). The incremental cost effectiveness ratio (ICER) of medical management was - $1,416 and proved to be the dominant option being less expensive and having comparable treatment success. Results were sensitive to variations in costs by 25% and success rate by 15% indicating domination of medical management suggesting being less expensive both to the patient as well as to the payer. **CONCLUSIONS:** From a societal perspective, medical management appears to be the least costly approach for the treatment of incomplete miscarriages in the Bahamas; and should be considered as the first line management. Further investigations are needed to obtain costs savings on long term horizon.

PIH28

COST-EFFECTIVENESS ANALYSIS OF USING LEVONORGESTREL-RELEASING INTRAUTERINE SYSTEM IN LONG-TERM CONTRACEPTION IN COLOMBIA

Romero M[1], Huerfano L[1], Espinel F[2]
[1]*Fundacion Salutia, Bogota, Colombia,* [2]*Clinica de la Mujer, Bogota, Colombia*

OBJECTIVES: To evaluate the cost-effectiveness of levonorgestrel-releasing intrauterine system (LNG-IUS) as a long-term contraceptive method compared with similar methods, from the state perspective **METHODS:** A Markov chain model is developed to evaluate pregnancies avoided as outcome of interest. The model was built in monthly cycles at a five-year time horizon for a hypothetical cohort of 1,000 women of childbearing age and includes probabilities of

pregnancy, ectopic pregnancy, suspension because bleeding and other causes, and other adverse events by using either LNG-IUS, etonogestrel Implants, levonorgestrel implants or copper T (last-two included in health care plan). Effectiveness, adverse events and adherence were taken from previously published studies and the costs were taken from database of patients in Colombia and are expressed in Colombian pesos (COP). An expert gynecologist reviewed data. Threshold was estimated in $6.823.583 by calculating the costs assigned by the public health care system in Colombia to health care during the first five years of life of children and cost of delivery care. A sensitivity analysis was developed using a Montecarlo simulation and a Tornado analysis. **RESULTS:** TOTAL OF 13.87 pregnancies occurred with using LNG-IUS as compared with 40.39 using Copper T, 30.08 using etonorgestrel implant, and 29.55 using levonorgestrel implant for the base case analyzed. Cost of LNG-IUS arm was COP$ 633,747,545 compared with copper T (COP$ 456,638,680), the less expensive. Applying a discount rate of 3% LNG-SIU was dominant versus implant etonogestrel and very cost-effective compared with levonorgestrel implant (ICER $631,682.98) and cost-effective compared with Copper T (ICER COP$ 6,678,395.53). Sensitivity analyses confirm that LNG-UIS keeps its benefits against etonogestrel and levonorgestrel in most cases. **CONCLUSIONS:** The use of LNG-IUS would be an adequate option for patients seeking a long-acting contraceptive method and its use could be envisaged by the health-care system due to its cost-benefits in Colombia.

PIH29

COST-EFFECTIVENESS OF PROPHYLAXIS OF RESPIRATORY SYNCYTIAL VIRUS INFECTION (RSV) WITH PALIVIZUMAB IN PRETERM INFANTS IN COLOMBIA

Rosselli D, Rueda JD, Ruiz JG

Pontificia Universidad Javeriana, Bogota, Colombia

OBJECTIVES: Infection due to respiratory syncytial virus (RSV) is usually transient and leaves no sequelae; however, in infants with risk factors such as prematurity, bronchopulmonary dysplasia, congenital heart disease or infections, it can be more severe, and imply higher costs. Some observational studies support the likelihood of an association between RSV and asthma. According to the Colombian Medical Federation, palivizumab was one of the ten most expensive drugs for the Colombian health system (US$43.6 million in the 4-year period 2008-11). The aim of this study was to evaluate the cost-effectiveness of palivizumab for the treatment of RSV infections in pre-term (<35 weeks) infants in Colombia. **METHODS:** We designed a decision tree model using local epidemiological data, effectiveness and safety, as well as QALYs, obtained from the scientific literature. We used the third-party payer perspective and a 3% discount rate for costs and long term outcomes. The time horizon was the lifetime of the patient. **RESULTS:** In our base case model, compared with no prophylaxis palivizumab showed on average an increase in costs per child of US$4.895, with 0.1645 QALYs gained, resulting in an incremental cost-effectiveness ratio of US$29.760 per QALY (our per capita GDP is US$6723). Other outcomes of importance in the model were: US$359.962 per asthma case averted, US$1.087.884 per life saved and US$75.084 per hospitalization averted. The price of paliviumab should be decreased 32% to reach the cost-effectiveness threshold of 3-times the per capita GDP. **CONCLUSIONS:** Under the assumptions and results of our study, palivizumab is not a cost-effective intervention and should not be recommended for routine immunization in preterm infants of 35 weeks gestational age or less, with or without bronchopulmonary dysplasia in Colombia.

PIH30

COST MINIMIZATION COMPARISON OF DARUNAVIR + RITONAVIR (DRV+RTV) TO LOPINAVIR/RITONAVIR (LPV/R) IN HIV-1 INFECTED TREATMENT-NAÏVE WOMEN OF CHILD BEARING AGE (WOCBA)

Desai K[1], Moller J[2], Simpson KN[3], Baran RW[4], Van de Steen O[5], Dietz B[6], Gooch K[4]

[1]*United BioSource Corporation, London, UK,* [2]*United BioSource Corporation, Eslov, Sweden,* [3]*Medical University of South Carolina, Charleston, SC, USA,* [4]*Abbott Laboratories, Abbott Park, IL, USA,* [5]*Abbott Laboratories, Wavre, IL, Belgium,* [6]*Abbott GmbH & Co. KG, Ludwigshafen, Germany*

OBJECTIVES: HIV guidelines consider LPV/r a preferred protease inhibitor for use during pregnancy. The budget implications of proactively initiating LPV/r versus initiating DRV+RTV and then potentially switching to LPV/r upon pregnancy were examined. **METHODS:** A cost minimization analysis was performed (US health care perspective) for HIV-1 infected, treatment-naïve WOCBA comparing: initiating LPV/r versus initiating DRV+RTV and switching to LPV/r when pregnant. A discrete event simulation was employed to represent antiretroviral (ARV) therapy management. Clinical trial data were used to model pregnancy rates, ARV switch rates, treatment impact as a function of CD4-cell count/viral load, adherence, treatment response, acquired resistance mutations, and treatment changes. Five- and 10-year costs incurred due to ARV therapy, clinical management of AIDS-related, non-AIDS related, and cardiovascular events were estimated. Analysis assumptions: switching to LPV/r can occur only once at first pregnancy, women's medication adherence improves 15% at pregnancy and to 100% if viral rebound. Analyses varied the rate of switching to LPV/r at time of pregnancy (0%, 30%, 100%), pregnancy rates, adherence improvement, and health care costs. Daily drug cost (WAC): LPV/r + TDF/FTC, $56.59; DRV+RTV+TDF/FTC, $73.89. Costs were discounted 3% per annum. **RESULTS:** With 0% switch, survival was similar for LPV/r and DRV+RTV, 7.68 and 7.69 life years, respectively (+/- 0.03 QALYs) at 10 years. Five- and 10-year health care costs of ARV-naïve WOCBA who initiate LPV/r were $107,790 and $192,352 per patient, respectively, versus $132,694 and $235,854 when initiating DRV+RTV (a $43,502 per patient savings at 10 years). If 100% of patients who initiated DRV+RTV switched to LPV/r upon pregnancy, savings per patient were reduced 21.3%. Sensitivity analyses showed that initiating LPV/r was always cost-saving relative to DRV+RTV. **CONCLUSIONS:** Initiating HIV infected, treatment-naïve WOCBA on LPV/r was cost saving compared to initiating DRV+RTV. Analysis limitations include the uncertainty of long-term outcomes projections driven by short-term clinical trial endpoints.

PIH31

COST OF FAILED LABOR INDUCTION: A US HOSPITAL PERSPECTIVE

Nicholson G[1], Cyr PL[2]

[1]*PriceSpective LLC, El Segundo, CA, USA,* [2]*PriceSpective LLC, Cambridge, MA, USA*

OBJECTIVES: Labor induction has increasingly been used in the management of obstetrical care, owed to post-term pregnancies, maternal/fetal complications and voluntary election. Several cervical ripening and induction agents are available, though failure or complications with administration of current agents are common. Induction failure generally necessitates either additional induction agents and/or an eventual cesarean section. This analysis descriptively quantifies the economic burden associated with failed medical inductions among US Commercial and Medicaid patients. **METHODS:** A retrospective analysis of inpatient hospital discharge data for 2010, using the Healthcare Cost and Utilization Project (HCUP) Nationwide Inpatient Sample (NIS) was performed, to identify delivery stays with primary or secondary diagnoses of failed medical induction (ICD9 659.10-659.13). Rates of cesarean and vaginal delivery, average medical charges (converted to costs and displayed in 2010 USD) and length of stay per patient are provided. **RESULTS:** Failed labor induction discharges totaled 41,600 in 2010. The average cost for a vaginal delivery (with or without complications) after failed induction was $5,890 (average charges of $17,645) this is compared to average cost of $3,860 (average charges of $10,106) for all vaginal deliveries. Hospital cost for cesareans after failed induction averaged $7,595 (average charges of $28,700) compared to $5,990 (average charges of $21,875) for all cesarean sections. Average length of stay for failed induction with cesarean was 4.42, compared to 3.8 days with vaginal deliveries post-induction failure. **CONCLUSIONS:** Failed medical induction is associated with increased risk of cesarean delivery, and associated increased hospital resource use, and expenditure in delivery. Preventing complications with induction may substantially reduce health care costs and resource utilization.

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

PIH32

VARIATION IN COST-RELATED MEDICATION NON-COMPLIANCE WITH FUNCTIONAL DEFICIENCY AND FREQUENCY OF HOSPITALIZATION AMONG US ELDERLY

Meltzer D[1], Zhang J[2]

[1]*University of Chicago, Chicago, IL, USA,* [2]*The University of Chicago, Chicago, IL, USA*

OBJECTIVES: Cost-related medication non-compliance (CRN) is a persistent issue that negatively impacts the effectiveness of medical intervention. This study aims to evaluate the variation of CRN with functional deficiencies and with frequency of hospitalization among the US elderly using a nationally representative data set. **METHODS:** Health Retirement Survey (HRS) 2010 was used to assess CRN, deficiencies in Activities of Daily Living (ADL), Instrumental Activities of Daily Life (IADL), and frequency of hospitalization over the past 2 years (0, 1, 2, 3, or 4 or more). CRN was assessed based upon self-reported non-compliance. After performing bivariate analyses of the association between ADLs/IADLs, hospitalizations, insurance coverage, self-reported monthly out-of-pocket (OOP) payments of prescription drugs and CRN, a logit model was used to assess the relationship between CRN and associated risk factors. **RESULTS:** 2,793 (12.7%) out of 22,042 elderly reported CRN over a period of 2 years. Those reported CRN has a mean ADL deficiencies 0.79 (s.d. 1.43) versus those who did not 0.48 (s.d. 1.16) ($p<0.001$), and a mean IADL deficiencies 0.53 (s.d. 0.97) versus those who did not 0.38 (s.d. 0.92) ($p<0.001$). The logit model showed that compared to those who did not have hospitalization, those who had 1 admission were 17% more likely to report CRN ($p=0.005$), those with 2 admissions 14% more likely ($p=0.10$), 3 admissions 54% more likely ($p<0.001$), and 4 or more admissions 33% more likely to report CRN ($p=0.007$). There was an inverse U-shaped relationship between CRN and deficiencies in ADLs/IADLs; as ADL/IADL deficiencies increased, the likelihood of CRN first increased and then decreased. **CONCLUSIONS:** The positive relationship between number of hospitalization and CRN and the inverse U-shaped relationship between functional deficiencies and CRN raise concerns that CRN may decrease the effectiveness and increase the cost of care in this population.

PIH33

HEALTH STATE UTILITIES VALUES FOR POST-MENOPAUSAL WOMEN FROM THE WOMEN'S HEALTH INITIATIVE ESTROGEN+PROGESTIN CLINCIAL TRIAL

Roth J[1], Pettinger M[1], Anderson G[1], Ramsey S[2]

[1]*Fred Hutchinson Cancer Research Center, Seattle, WA, USA,* [2]*Fred Hutchinson Cancer Research Center and Professor, Department of Medicine, University of Washington, Seattle, WA, USA*

OBJECTIVES: The Women's Health Initiative (WHI) estrogen+progestin (E+P) clinical trial provides a large sample to estimate health state utility values for post-menopausal women with an intact uterus in the United States. To facilitate future health economic evaluations in this large population sub-group, we estimated utilities for trial participants stratified by age group (50-59, 60-69, 70-79) and randomization assignment (E+P or placebo). **METHODS:** We measured health state utility values for all 16,608 trial participants with the Short Form-6D (SF-6D) utility index using a validated Bayesian mapping algorithm and U.S. weights. We calculated cross-sectional mean baseline and 1-year utilities, and mean within-patient utility change from baseline to 1-year. Patients included in the baseline analysis completed the SF-36 within 7 days of randomization, and