the “change from baseline” of the IPSS score (p=0.1464). The same applies to the analyses at 3 and 6 months where the p-values were 0.1156 and 0.1723 respectively.

Concerning the scores at endpoint (IPSS12 score), we observed a significant difference between the 2 treatment groups (physical dimension, p=0.0532 and p=0.0075 at 6 weeks respectively; mental dimension, p=0.0472 and p=0.0006 respectively). CONCLUSIONS: We observed marked improvement in the IPSS and IPSS12 scores from 6 weeks. This improvement was not significantly different between the 2 treatment groups. Under actual conditions of use, the various medical treatments gave similar improvements.

PHI13

GENERALISING THE OUTPUT OF ROTAVIRUS VACCINATION IMPACT STUDIES: WHAT CAN WE LEARN?

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OBJECTIVES: Repeat chlamydial infections are known to cause tubal scarring, ectopic pregnancy and infertility. CDC has recommended rescreening 3 months after initial diagnosis. The objective was to examine the rates and predictors of Chlamydia retesting. METHODS: We collected data over 5 years on hospitalisation due to rotavirus in children <5 years old before (2y) and after (3y) the introduction of vaccination in 9 Belgian hospitals. We split the annual data by age-group of 2 to 3 months when <1 year-old and by year thereafter over the period of the epidemic spread. We harmonised the data using Riskview software in Excel. The hypotheses tested are that the age-groups most vulnerable to the disease have the largest epidemic spread (highest number of weeks/yr of cases reported) and that the less vulnerable age-groups have their spread during the peak weeks of the most vulnerable ones. The latter should indicate a way of disease transmission between age-groups that could be confirmed with vaccination. RESULTS: Pre-vaccination data analysis indicates the widest spread of the disease in the age-group of 9 to 11 months (39 wks/52) and the smallest ones in the very young (33 wks/52) and the oldest ones (8 wks/52). The data confirms the spread of the disease in the least vulnerable ones (younger and older ones) occurring during the peak moment of the season of the most vulnerable ones. Post-vaccination analysis shows the same pattern of dependency between the age-groups. CONCLUSIONS: Preferential spread of the disease starting from the 9 to 11 month age-group seems to indicate that age-groups less than and older ones can be deduced from the data analysis. This could give an explanation for the annual self-limiting spread of rotavirus disease.

PHI14

RATES AND PREDICTORS OF CHLAMYDIA RE-SCREENING AMONG PRIVATELY INSURED PATIENTS WITH CHLAMYDIA IN 2007-2009

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OBJECTIVES: Impact studies evaluate the benefit of vaccination on specific outcome measures in real live conditions. Those studies collect raw data that do not allow for making general assessments because sometimes the numbers are too low. Modelling techniques can fine-tune the raw data into more harmonised (parametric) data presentation. But what do we learn after this transformation? METHODS: We identified using ICD10 codes, data assessed included outpatient and inpatient care, German health insurance fund data (Techniker Krankenkasse). Patients were identified using ICD10 codes, data assessed included outpatient and inpatient care, rehabilitation, remedies and medical aids, and use of pharmacy technology. The analysis was stratified by age group to provide a lifetime burden estimate and was compared to standardized health care expenditures from the German Risk Compensation Scheme (RSA) to obtain an indicator of incremental burden due to NTD. RESULTS: Overall, 4,173 patients were identified, 47.2% of whom were male and 95% had SB. 19.6% and 17.5% patients had an additional diagnosis of depression and incontinence respectively. Costs of patients with SB and Encephalocoele were substantially higher than general population in all age strata. The difference was highest for patients 60 years old (€17,775 vs €3,260 for <1 year old; €8,398 vs €833 for 2-5, and €10,686 vs €833 for 6-10) and smallest for 51-50 (€2,596 vs €1,101) and 71+ (€2,526 vs €4,389). Inpatient care contributed 78% of total cost for patients 0-1, whereas remedies and medical aids accounted for 60% of total cost for patients 2-5 and 6-10. Among sub-groups, costs of patients with Spina Bifida and Hydrocephalus were highest, especially in the first 10 years of life. CONCLUSIONS: The burden of NTD in Germany will be developed, and follow-up assessments of epidemiological and economic HZ-related disease burden will be performed to monitor the impact of VZV-vaccinations in Germany.

PIH16

ANALYZING THE ADVERSE DRUG REACTIONS OF GERIATRIC POPULATION AT A REGIONAL ACADEMIC HOSPITAL OF SOUTHERN TAIWAN

Lin PF, Cheng YD

OBJECTIVES: The aging of the Taiwan population is one of the major public health issues we face now. The physical difference between young and elderly is significant and may induce many drug-related problems. Once geriatrics suffered from adverse drug reactions, they may need for intensive care and increased the financial expenses. Consequently, questions on medication safety is one of the critical issues for elderly. Analyzing the adverse drug reactions in geriatric patients and associate to healthcare related professionals to prevent the incidences. METHODS: The data was claimed form Reporting System of Adverse Drug Reaction of a regional teaching hospital in Taiwan. From 2010 to the end of 2012, 440 adverse drug reactions were extracted from computer-assisted system. Of 228 geriatrics (51.82%) was enrolled with mean age 77.03 ± 7.4 years old, including 116 female and 112 male. The reason to cause adverse drug reaction is Type 1 (58.26%), undesired pharmacology reaction, and others were Type 2 (41.74%). The most strategies to management adverse effects were to cease medicine and give another reversible drug (29.82%), only cease medicine (28.51%) and varied to alternative medicine (21.93%). Analyzing the severity of event, 55.26% is moderate (needless therapy or inducing to admit hospital). CONCLUSIONS: Over half events happened on elderly and make patients need more advance therapy, and undesired pharmacology effects, which are preventable, are the most reasons. For this reason, health care related professionals should pay more attention and monitor closely to enhance medication safety when a drug was prescribed to elderly.

Individual’s Health – Cost Studies

PHI17

BURDEN OF ILLNESS IN PATIENTS WITH NEURAL TUBE DEFECTS IN GERMANY

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OBJECTIVES: To describe the burden of illness associated with neural tube defects (NTDs) in Germany from a payer perspective. METHODS: Retrospective data of patients with Spina Bifida and Encephalocoele were analyzed using 2006-2009 German health insurance fund data (Techniker Krankenkasse). Patients were identified using ICD10 codes, data assessed included outpatient and inpatient care, rehabilitation, remedies and medical aids, and use of pharmacy technology. The analysis was stratified by age group to provide a lifetime burden estimate and was compared to standardized health care expenditures from the German Risk Compensation Scheme (RSA) to obtain an indicator of incremental burden due to NTD. RESULTS: Overall, 4,173 patients were identified, 47.2% of whom were male and 95% had SB. 19.6% and 17.5% patients had an additional diagnosis of depression and incontinence respectively. Costs of patients with SB and Encephalocoele were substantially higher than general population in all age strata. The difference was highest for patients 60 years old (€17,775 vs €3,260 for <1 year old; €8,398 vs €833 for 2-5, and €10,686 vs €833 for 6-10) and smallest for 51-50 (€2,596 vs €1,101) and 71+ (€2,526 vs €4,389). Inpatient care contributed 78% of total cost for patients 0-1, whereas remedies and medical aids accounted for 60% of total cost for patients 2-5 and 6-10. Among sub-groups, costs of patients with Spina Bifida and Hydrocephalus were highest, especially in the first 10 years of life. CONCLUSIONS: The burden of NTD in Germany will be developed, and follow-up assessments of epidemiological and economic HZ-related disease burden will be performed to monitor the impact of VZV-vaccinations in Germany.

PHI18

ROTAVIRUS GASTROENTERITIS IN VULNERABLE CHILDREN: A UK CASE CONTROL STUDY

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OBJECTIVES: The incidence of rotavirus gastroenteritis (RVGE) and respiratory syncytial virus (RSV) represent a significant burden on paediatric clinical Physicians (ASHIP) database containing nationwide routine accounting data.

Annual number of HZ-associated deaths and HZ-inpatients were identified by using the Federal Health Monitoring System (FHM). HZ-incident and loss of quality-adjusted life years (QALYs) were modelled by multiplying upper and lower limit estimates for proportion of HZ-cases developing PHN and HZ-related QALY-loss with number of identified HZ-outpatients. RESULTS: We identified an annual average of 480,927 HZ-outpatient cases, resulting in a HZ-incidence of 5.9/1,000 PY. Of these, 63.5% were 50 years and over. On average, 16,964 HZ-associated inpatients (84% ≥50 years) and 71 deaths (all ≥50 years) were reported annually. HZ-outpatient incidence increased by age from 2.7/1,000 PY in people 0-14 years to 13.18/1,000 PY in people aged 90+. In terms of outpatient (6.94 vs 4.81/1,000 PY) and inpatient (0.24 vs. 0.17/1,000 PY) HZ-incidence and mortality (0.13 vs. 0.04/100,000 PY) females were significantly more affected. We estimated that PHN-incidence ranged between 0.18 and 1.33/1,000 PY and that HZ-outpatients lost between 4,807 and 5,549 QALYs annually. CONCLUSIONS: HZ poses a considerable burden on the health care system in Germany, especially in the elderly. A health economic model for Germany will be developed, and follow-up assessments of epidemiological and economic HZ-related disease burden will be performed to monitor the impact of VZV-vaccinations in Germany.
services. For the majority of UK children, length of stay (LOS) in hospital is brief and rehydration alone is sufficient. More complex support is sometimes needed in children with severe disease, with hospitalization (LOS and cost), and of children with RVG and RVS alone, and vulnerable children with co-morbidities.

METHODS: Hospital data were obtained from the CHKS database between April 1, 2001 and March 31, 2008, where patients, aged <5 years, were admitted with a primary diagnosis of RVG or RSV. Patients were categorised into three groups. G1: a primary diagnosis of RVG/RSV, G2: controls with a primary diagnosis of eczema, G3: vulnerable children with a readmission for RVG/RSV following a prior admission, within 30 days, with a primary diagnosis of type 1 diabetes, cancer, or epilepsy. Non-parametric tests were used to compare the groups.

RESULTS: A total of 102,270 patients were selected, group one n=101,784 (mean age 0.2 years, LOS 1.9 days, cost £595), group two n=17,420, (mean age 1.1, LOS 1.7, cost £590), and group three n=486, (mean age 1.1, LOS 9.9, cost £3,477). Non-parametric tests showed that mean age, and hospital LOS were significantly different between groups 1 and 2 (p<0.001), while mean age, LOS, and cost were significantly different between groups 1 and 3 (p<0.001), and groups 2 and 3 (p<0.001). When adjusted for age, regression analysis showed that LOS was 5.2 times higher, and cost was 5.8 times higher in group 3 than group 1. CONCLUSIONS: This study shows that vulnerable children readmitted to hospital with RVG/RSV, incur a greater LOS, and subsequent cost, compared to other groups. Universal rotavirus vaccination would substantially benefit vulnerable children through direct or indirect protection and reduce the healthcare resource use resulting from hospital readmissions.

PIH15 PUBLIC HEALTH COSTS ASSOCIATED WITH OUTBREAKS OF MENINGOCOCCAL DISEASE: A SYSTEMATIC REVIEW

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OBJECTIVES: Estimating the costs associated with outbreaks and the prevention of secondary cases of invasive meningococcal disease (IMD) is needed to understand the true economic burden of IMD. We aimed to review the costs associated with IMD outbreaks that occur globally. METHODS: Literature searches were conducted in MEDLINE and EMBASE using medical subject headings and key words, such as costs, outbreaks, and IMD. Studies were included if they reported the costs associated with IMD outbreaks and were written in English, French or Spanish. All costs were converted to USD 2010. RESULTS: A total of 1672 citations were screened and 323 were potentially relevant. Nine studies fulfilled the inclusion criteria and included IMD outbreaks with cost data from the US (n=4), England, Canada, Guinea, Burkina Faso, S. Africa and France (1 each) between November 1992 and November 2006. Three outbreaks occurred among high school children, one among boys aged 3-6 years, another among individuals aged <18 years, and two occurred among all ages. The majority were due to serogroup C (n=7/9). The median number of infected per outbreak was 8 (range: 3-2435). The attack rate ranged from <2 per 100,000 to 187 per 100,000, the hospitalization rate from 55.6% to 100%, and the death rate from 0% to 26%. Containment strategies ranged from targeting all members of the school where the outbreak occurred to targeting all students in the community. The overall average cost per containment was $2,368,135 (USD 2010) ranging from an average of $296,821 for small containment strategies (n=3) to $3,403,792 for large containment strategies (n=6). CONCLUSIONS: IMD outbreaks were associated with substantial costs. While numerous reports on outbreaks were identified, there are limited data on containment. More research and research synthesis is warranted, particularly to understand the economic value of new vaccines given that the purpose of vaccination is to prevent potential outbreaks.

PH20 THE BURDEN OF ENDOMETRIOSIS: COSTS AND QUALITY OF LIFE OF WOMEN WITH ENDOMETRIOSIS TREATED IN REFERRAL CENTRES

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OBJECTIVES: Endometriosis (the presence of endometrial-like tissue outside the uterus) affects 10% of women of reproductive age and is associated with dysmenorrhea, pain at ovulation, dyspareunia, abnormal bleeding, chronic pelvic pain, fatigue, and infertility. This study aimed to calculate costs and health-related quality of life of women with endometriosis-associated symptoms treated in referral centres. METHODS: A multi-centre questionnaire-based survey measured costs and health-related quality of life in ambulatory care and in 12 tertiary care centres in ten countries. The study enrolled women with a diagnosis of endometriosis and with at least one centre-specific contact related to endometriosis-associated symptoms in 2005 to 2008. The main outcome measures included healthcare costs, costs of productivity loss, total costs and quality-adjusted life years. Predictors of costs were identified using regression analysis. RESULTS: Data analysis of 909 women (63% response rate) demonstrated that the average annual cost per woman was €9,579 (95% CI €6,278 to €13,880). The mean outpatient medical cost loss of €629 per woman was double the health care costs (€3113 per woman). Health care costs were mainly due to surgery (29%), monitoring tests (19%) and hospitalization (18%). The cost of medication accounted for 10% of health care costs. At a prevalence rate of 7%, the annual burden of endometriosis-associated symptoms ranged from 0.8 billion in Denmark to €50 billion in the United States. Endometriosis-associated symptoms generated 0.809 quality-adjusted life years per woman. Decreased quality of life was the most important predictor of direct health care and total costs. Costs were greater with increasing severity of endometriosis, presence of pelvic pain, presence of infertility, and higher number of years since diagnosis. CONCLUSIONS: The economic burden associated with endometriosis is high and is similar to other chronic diseases (diabetes, Crohn’s disease, rheumatoid arthritis). It arises predominantly from productivity loss, and is predicted by decreased quality of life.

PH21 THE POTENTIAL PUBLIC HEALTH BENEFIT OF PNEUMOCOCCAL CONJUGATE VACCINE PROJECTIONS FOR CHINA

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OBJECTIVES: A 7-valent pneumococcal conjugate vaccine (PCV7) was launched as a Category II vaccine requiring out-of-pocket payment in China in 2008. This study evaluated the potential economic benefits of introducing a public financed City Immunization Program (CIP) to pay for PCV7 from a payer perspective. METHODS: A decision-analytic model was populated with local direct cost and seroprevalence data from case records of 3 hospitals (1 Children’s Hospital; 2 Comprehensive Hospitals) and literature to estimate the clinical and economic impact of no PCV7 vaccination or early vaccination with PCV7 Category II. COST EFFECTIVENESS OF AN INFANT PNEUMOCOCCAL CONJUGATE VACCINE PROJECTIONS FOR CHINA

CIP outbreaks

PIH22 COST EFFECTIVENESS OF AN INFANT PNEUMOCOCCAL CONJUGATE VACCINE IN CHILDREN FROM A PAYER’S PERSPECTIVE

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OBJECTIVES: The potential public health benefit of pneumococcal conjugate vaccine (PCV7) was launched as a Category II vaccine requiring out-of-pocket payment in China in 2008. This study evaluated the potential economic benefits of introducing a public financed City Immunization Program (CIP) to pay for PCV7 from a payer perspective. METHODS: A decision-analytic model was populated with local direct cost and seroprevalence data from case records of 3 hospitals (1 Children’s Hospital; 2 Comprehensive Hospitals) and literature to estimate the clinical and economic impact of no PCV7 vaccination or early vaccination with PCV7 Category II. COST EFFECTIVENESS OF AN INFANT PNEUMOCOCCAL CONJUGATE VACCINE IN CHILDREN FROM A PAYER’S PERSPECTIVE

CIP outbreaks

PIH23 COST EFFECTIVENESS OF MIFANFACINE EXTENDED RELEASE AS AN ADJUVANT THERAPY TO A MONOTHERAPY IN CHILDREN WITH DECI HYPERACTIVITY DISORDER (ADHD) / HYPERACTIVITY DISORDER IN CHILDREN AND ADOLESCENTS

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OBJECTIVES: Attention deficit/hyperactivity disorder (ADHD) is a common psychiatric disorder with substantial clinical and economic implications. While psycho-stimulants are first-line pharmacologic treatment, up to 30% of ADHD children have suboptimal response to psycho-stimulants and require adjunctive therapy. Our objective was to analyze the cost-effectiveness of adding an alpha-2A agonist,