official Sentinel Network. The advantage of the LPD data is that its trends are available almost in real time, whereas the active reporting of the doctors of Sentinel Network is done on a weekly basis. However, the LPD trends lack of geographical precision because of the censorship of the post codes of patient during the de-identification process. We recommend a combined use of LPD and Sentinel Networks in the follow up of future epidemics.

PIN6

A MULTIVARIATE MODEL: PREDICTORS OF DISEASE PROGRESSION IN HIV/AIDS PATIENTS IN WESTERN NEW YORK

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OBJECTIVES: The medical care of HIV/AIDS patients is becoming increasingly complex involving a host of issues including medication management, co-infections, cardiovascular risk factors and patient characteristics. This analysis used a set of patient characteristics and treatment patterns to explore potential predictors of HIV progression. **METHODS:** Aids Community Services of Western New York provides primary medical care services to approximately 600 HIV/AIDS patients yearly in WNY. A total of 1128 patients, receiving care from August 2006 through June 2010 were included in the analysis. The patient characteristics, health indicators, medication information and risk factors were used as potential predictors of disease progression. Disease progression was measured by the surrogate endpoints of CD4 counts and CD4/CD8 ratio values. a mixed model with a repeated structure was fit to the data set (with a significance level of 0.05). **RESULTS:** The patient population was comprised of 757 men and 371 women; the average age of the population was 44 years. The population sampled was predominantly Caucasian, African American and Hispanic (39%, 39%, and 19%). The most common HIV medications administered to these patients were ritonavir, a tanofovir/emtricitabine combination, atazanavir and a lopinavir/ritonavir combination. The most common risk factors in this population were male with male sex, heterosexual sex and IV Drug use (27%, 15%, and 9%). For the multivariate model utilizing the CD4 counts as the outcome variable, only medications and cardiovascular risk factors were significant predictors. For the multivariate model utilizing the CD4/CD8 ratio as the outcome variable, only the HIV risk factors and medications were significant predictors. Both models achieved global statistical significance. **CONCLUSIONS:** The management of HIV/AIDS is an increasingly complex problem which requires constant advances in both research and practice. This exploratory analysis was able to identify significant relationships between patient characteristics, treatment patterns and measures of disease progression.

INFECTION – Cost Studies

PIN7

BUDGET IMPACT MODEL FOR CATCH-UP PROGRAM WITH 13 VALENT PNEUMOCOCCAL CONJUGATE VACCINE IN CHILDREN UNDER 5 YEARS OLD IN THE AUTONOMOUS REGION OF MADRID (RM)

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OBJECTIVES: Madrid Health Authorities decided the introduction of Pneumococcal Conjugate Vaccine (PCV) as systematic use for infants in November 2006 (3 + 1 pattern; 2, 4, 6 + 18 months). Recently, a flawless transition to PCV13 has been recommended. This study was aimed to assess the budget impact of an additional catch-up vaccination strategy from the age of 19 to 60 months. **METHODS:** A one-year budget impact model has been developed stratifying population by age groups (19 to 24, 25 to 36, 37 to 48 and 49 to 60 months) and diseases (IPD and Non-IPD). Clinical data, PCV13 serotype coverage and disease related costs were based on published data. Model was built up under regional health care system perspective and assumed 80% of coverage for PCV13. Indirect effect was not considered. All costs were expressed in €2010. **RESULTS:** The model predicts that the implementation of a catch-up vaccination program with PCV13 in the RM would be a cost saving measure in infant groups from 19 to 36 months due to disease burden reduction caused by the 6 PCV13 additional serotypes. Globally, 49.6% of IPD, 58.9% of OMA and 47.1% of out-patient pneumonia cases would be prevented in these groups. **CONCLUSIONS:** Based on this health economic evaluation, the inclusion of a catch-up program with PCV13 in the RM would be an efficient measure. Model results showed that a PCV13 catch-up dose would have a high impact on pneumococcal disease prevention, avoiding its related costs.

PIN8

COST-EFFECTIVENESS ANALYSIS OF PEGINTERFERON (ALFA-2B) WITH RIBAVIRIN COMPARED WITH PEGINTERFERON (ALFA-2A) WITH RIBAVIRIN FOR THE TREATMENT OF CHRONIC HEPATITIS C

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OBJECTIVES: Combination therapy with pegylated interferon with ribavirin is the standard of care for the treatment of chronic hepatitis C infection. This analysis compares the cost efficacy of of combined antiviral therapy with peginterferon alfa—2b with ribavirin compared peginterferon alfa—2Ü with ribavirin for treatment at patients with a hepatitis C infection counting for 1 patient. **METHODS:** A decision analysis model was constructed from the viewpoint of a managed care organization to compare Peg-2b plus RBV (1.5 mcg per kilogram per week plus RBV 1000 mg per day) and Peg-2a plus RBV (180 mcg per week plus RBV 1000 mg per day). For purposes of this analysis, distribution on genotypes and treatment duration and efficacy data were obtained from the published literature. The positive predictive value was calculated for each treatment group for genotype 1, which is determined from the values for early virologic response and sustained viral response. Genotype 2 and genotype 3 were assumed to be treated for 24 weeks. **RESULTS:** Antiviral therapy of combined antiviral therapy with peginterferon alfa—2b with ribavirin is economically more favourable in comparison with therapy in a combination peginterferon alfa—2Ü with ribavirin and taking into account efficiency of treatment the difference indicator makes €3293 thousand on 1 patient. **CONCLUSIONS:** Antiviral therapy of combined antiviral therapy with peginterferon alfa—2b with ribavirin is economically more favourable in comparison with therapy in a combination peginterferon alfa—2Ü with ribavirin and taking into account efficiency of treatment the difference indicator makes €3293 thousand on 1 patient.

PIN9

ESTIMATED HEALTH AND ECONOMIC IMPACT OF QUADRIVALENT HPV TYPES 6, 11, 16, 18 VACCINE IN JAPAN USING A TRANSMISSION DYNAMIC MODEL

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BACKGROUND: The quadrivalent (6,11,16,18) HPV vaccine has been approved in many countries for prevention of cervical cancer, vulvar/vaginal pre-cancers, and genital warts in women age 9 to 26 years. **OBJECTIVES:** To assess the health and economic impact of the quadrivalent (6,11,16,18) HPV vaccine in Japan. **METHODS:** A published mathematical model of the transmission dynamics of HPV infection and disease was adapted for Japan. Model inputs were used from Japan or the Asia/Pacific region when available; otherwise, the default values in the original model were used. Maintaining current cervical cancer screening practices in Japan, we evaluated two strategies: routine vaccination of females by age 12 (S1), and S1 combined with a temporary (5 years) female catch-up program for age 12–24 years (S2). The vaccine coverage rates were 80% for the routine and 50% for the catch-up vaccination programs. **RESULTS:** The most effective strategy was S2. Using this strategy over 100 years in the population of Japan, the estimated cumulative percent reduction in incident HPV 6/11/16/18-related genital warts-female, genital warts-male, cervical intraepithelial neoplasia (CIN) grade 1, CIN 2/3, and cervical cancer cases was 90% (2,113,723 cases), 86% (2,082,637 cases), 72% (263,406 cases), 71% (1,328,366 cases), and 58% (323,145 cases), respectively. The cost-effectiveness ratios were US$ 12,434 (weekly dominated), and US$ 12,058 per quality-adjusted life-years (QALY) gained for S1 and S2 compared with no vaccination, respectively. **CONCLUSIONS:** In Japan, vaccination of females age 12–24 years with a quadrivalent (6,11,16,18) HPV vaccine can reduce the incidence of cervical cancer, CIN, and genital warts at a cost per QALY ratio within the range typically regarded as cost-effective.

PIN10

COST VERSUS DRG REVENUE IMPLICATIONS OF TREATING A PATIENT WITH VENTILATOR-ASSOCIATED PNEUMONIA (VAP) WITH DORIPENEM VERSUS IMIPENEM IN GERMANY

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OBJECTIVES: A Phase III study of doripenem versus imipenem in VAP (DORI-10) has shown a statistically significant reduction in length of stay (LOS) and mechanical ventilation (MV) duration with doripenem. This study estimated expected hospital cost versus G-DRG payment for a patient treated with doripenem versus imipenem. **METHODS:** From both DORI-10 trial arms, and for nine categories of post-randomization MV duration, we obtained percentages of patients per group and median LOS by type of ward (ICU with vs. w/out MV, general ward). One clinical expert provided ICD and OPS codes for four likely patient profiles, and another expert on intensive care severity (TISS/SAPS). Using the Muenster Webgrouper, we determined G-DRG weights when simultaneously varying MV duration and intensive care severity (8–890 code). Per treatment arm and for each MV subgroup, the appropriate G-DRG weight was selected based on the selected profile, total MV duration, 8–980 code, and total LOS. Using the distribution of patients by category, a weighted G-DRG was calculated for each arm, and G-DRG weight was multiplied by the 2010 base value (€2936) to yield expected G-DRG payment. Within each arm, we calculated cost per MV category (hospital per diem plus antibiotic therapy) as well as a weighted cost. **RESULTS:** Expected cost for a patient receiving doripenem was €30,183 vs. €32,549 for imipenem. Expected revenue reduction ranged from €2084 to €2428 across 4 scenarios. Net budget impact of the introduction of doripenem ranged from –€85 to €282, showing that revenue reduction may be more than offset by cost reduction. **CONCLUSIONS:** For a patient receiving doripenem instead of imipenem, reduced hospitalization costs more than offset reduced G-DRG revenue in a wide range of cases. In addition, less time on the ventilator can improve patient outcomes (including quality-of-life), and frees up ICU bed-days, allowing more patients to be treated.