OBJECTIVES: This was to assess the cost effectiveness of some antimicrobial agents used in the treatment of sexually transmitted diseases (STD). These include doxycycline versus tetracycline for chlamydial infection, benzathine penicillin versus procaine penicillin for syphilis, and ceftriaxone versus spectinomycin for gonorrhoea. The choices were based on standard treatment guidelines and observed prescription patterns. METHODS: Cost Effectiveness Analysis was used. The prescribed/dispensed prescriptions in STD clinic between 1997 and 1999 were reviewed retrospectively. Relevant information such as diagnosis, prescribed/dispensed drugs, dosage, duration of therapy, laboratory results, physician’s remarks among others were obtained from patient case-notes and dispensed prescriptions. In conjunction with these, time and motion studies and standard cost accounting technique were used. The cost per defined daily dose (DDD) and the cost of therapy for each agent were calculated. The cost components include overhead costs, and cost of drug/disposables acquisition. The literature was reviewed for positive and negative consequences of the considered therapeutic options. Improvements in signs and symptoms as well as eradication of the implicated organisms are the outcome measures. Decision table was used in the effectiveness rating. These were compared using chi square analysis. RESULTS: The results showed that doxycycline, benzathine penicillin and ceftriaxone were more effective than their respective counterparts in the treatment of stated infections. For example, doxycycline was N0.92 per unit effective while tetracycline was N1.82 per unit effective. Tetracycline is still widely used in the country. Alteration of some variables (cost and effectiveness rating) in favour of less cost effective option did not change the conclusion confirming that doxycycline is truly more cost effective. CONCLUSION: It is concluded that tetracycline should no longer be used except when doxycycline is not available. This equally applies to benzathine penicillin and ceftriaxone compared to their counterparts. However patients peculiarities and contraindications need to be considered at all times.

HOSPITALIZATION EXPENDITURE OF STREPTOCOCCUS PYOGENES-ASSOCIATED CELLULITIS IN THE UNITED STATES

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OBJECTIVE: To determine the impact of Streptococcus pyogenes (group A streptococcus, GAS) associated cellulitis on hospital expenditure in the United States. METHODS: This study analyzed data from the Healthcare Cost and Utilization Project (2000) funded by the Agency for Healthcare Research and Quality. Hospitalizations due to cellulitis were identified using ICD-9 codes 681–682 as principal diagnoses. We assumed that 30–50% of cellulitis-related hospitalizations were caused by GAS. RESULTS: In 2000, there were approximately 110,000–183,000 hospitalizations due to GAS-associated cellulitis. Adults aged 18–64 years accounted for 56% of the hospitalizations, followed by the elderly (65 years and older, 36%) and children (<18 years, 8%). The most common comorbid conditions associated with cellulitis were hypertension (28%), diabetes mellitus (13%) and congestive heart failure (10%). The mean and median length of hospital stay for cellulitis were about five and four days, respectively. Total annual hospitalization charges for GAS-associated cellulitis were estimated at $1.2–2.0 billion in year 2002 US dollars. Average charge per hospital stay was about $10,500. CONCLUSIONS: GAS-associated cellulitis represents a significant economic burden in the US. Total annual hospitalization charges estimated for GAS-associated cellulitis are significantly higher than the recent estimate by the Institute of Medicine (Vaccines for the 21st Century, A Tool for Decisionmaking, 2000) for all GAS-associated hospitalizations (<$100 million).

THE COST-EFFECTIVENESS OF PEGINTERFERON ALFA-2A (40KD) (PEGASYS) PLUS RIBAVIRIN (COPEGUS) VS. INTERFERON ALFA-2B PLUS RIBAVIRIN FOR CHRONIC HEPATITIS C (CHC)

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OBJECTIVES: Peginterferon alfa-2a (40KD)/ribavirin (PEG) has been shown to produce a higher rate of sustained virological response (SVR) than non-pegylated combination therapy (non-PEG) in CHC, but the cost-effectiveness of this improved efficacy has not been assessed. METHODS: We used a Markov model of disease progression in which the cohorts of hepatitis C virus (HCV) patients received PEG or non-PEG for either 48 or 24 weeks depending on genotype and liver histology and were followed for their expected lifetime. The reference patient was a 45-year-old male with CHC without cirrhosis. The SVRs to PEG and non-PEG were 46% and 36% for HCV genotype 1 and 76% and 61% for non-1, respectively. Quality of life and costs for each health state were based on literature and on Italian treatment patterns. Costs in 2002 Euros and benefits were discounted at 3%. RESULTS: In HCV genotype 1, PEG increases life expectancy (LY) by 0.78 years and quality-adjusted life expectancy (QALY) by 0.67 years compared to non-PEG. The incremental cost per QALY gained is $100 million.
parison to non-PEG. The incremental cost per QALY gained is €4289. The weighted average incremental cost-effectiveness ratio, using population-based HCV genotype distribution estimates, for all genotypes was €9473 per QALY. CONCLUSION: Peginterferon alfa-2a (40KD)/ribavirin is a cost-effective therapy for treatment of naive adults with CHC compared with standard interferon alfa-2b/ribavirin, regardless of HCV genotype.

**PIN32**

COST-EFFECTIVENESS ANALYSIS OF ANTIVIRAL THERAPIES FOR CHRONIC HEPATITIS B IN TAIWAN

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OBJECTIVES: Due to the high prevalence of hepatitis B infection in some Asian countries and the associated morbidity and mortality, widespread treatment of chronic hepatitis B treatment would have major public health implications in these countries. We evaluated the cost-effectiveness of 3 treatment regimens for chronic hepatitis B (interferon-alpha for 16 weeks, lamivudine for 1 year, and lamivudine for 3 years) vs. no treatment in Taiwan, where government-sponsored universal health insurance have been implemented since 1995.

METHODS: We followed international guidelines on cost-effectiveness analysis and constructed a Markov model to project disease progression and health care expenditure among hypothetical cohorts of 30-year-old chronic hepatitis B patients. We adopted the societal perspective and a 70-year time frame since treatment initiation. Taiwan-specific disease, quality-of-life, and cost data can be used to model disease burden in Brazil.

RESULTS: For a 30-year-old chronic hepatitis B patient under base-case assumption, projected increase in life expectancy was 1.84 years, 2.01 years, and 3.9 years if s/he was treated with interferon, lamivudine for one year, and lamivudine for three years, respectively. ICERs (TWD/QALY) with 3% annual discount rate were 34,700 for interferon, 17,400 for 1 year of lamivudine, and 46,200 for 3 years of lamivudine. Monte Carlo simulation showed robust results with respect to a wide range of parameter assumptions and each of the three treatment regimens could result in cost-savings. In multi-way sensitivity analysis, the upper range of 95% of the ICERS (with 3% annual discount rate) were 204,100 for interferon, 127,800 for 1 year of lamivudine, and 197,900 for 3 years of lamivudine.

CONCLUSIONS: Using lamivudine to treat of chronic hepatitis B among young adults in Taiwan would result in substantial gain in life expectancy.

**PIN33**

MEDICAL RESOURCE USE AND DIRECT MEDICAL COST OF CHRONIC HEPATITIS B VIRUS (HBV) INFECTION IN BRAZIL

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OBJECTIVES: Approximately 350 million patients have Chronic HBV infection worldwide. In Brazil there are more than 3 million chronically infected with HBV. HBV infection leads to chronic liver disease states such as cirrhosis, hepatocarcinoma and the need for transplantation. There is little published data on the cost of HBV in Brazil. The aim of this study is to investigate treatments patterns, medical resource use and treatment costs for each state of HBV infection.

METHODS: A questionnaire was developed and a physician survey conducted to obtain information about the treatment patterns for Chronic HBV in Brazil. Data were collected from physicians in seven hospitals, across three different regions of Brazil. Cost information was derived predominantly from the government pay schedule; private hospital services and pharmacy cost tables for medical care in Brazil.

RESULTS: Patients were separated into those managed with and without antiviral medications. Lamivudine and Interferon alfa 2-B were the most common used antiviral agents, with a cost of R$921.17 (year patient) and R$15,424 (year/patient) respectively. The expected annual costs per patient were: R$7,561 (R$1,030, R$17,374) for chronic hepatitis B with antiviral medication, R$326 (R$212, R$512) for chronic hepatitis B without antiviral medication, R$6,279 (R$1,030, R$17,377) for compensated cirrhosis with antiviral medication, R$384 (R$212, R$535) for compensated cirrhosis without antiviral medication, R$16,522 (R$3,392, R$44,336) for decompensated cirrhosis, R$39,895 (R$38,678, R$41,112) for liver transplantation, R$29,858 (R$26,513, R$33,202) for transplant care after the first year and R$2,382 (R$1,731, R$3,032) for hepatocellular carcinoma.

CONCLUSIONS: These cost data can be used to model disease burden in Brazil. Cost of antiviral medications influence disease costs in chronic HBV and compensated cirrhosis states. Costs increase dramatically in the more advanced health states, and indicate that slowing progression to these states may be cost savings. One USD = 3 R$ at the moment of the survey.

**PIN34**

DIRECT MEDICAL COSTS ASSOCIATED WITH HEPATITIS B VIRUS (HBV) INFECTION IN THE UNITED STATES

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OBJECTIVES: There is little published data on the cost of HBV in the United States. Chronic HBV infection leads to chronic liver disease states such as cirrhosis, hepatocarcinoma and the need for transplantation. There is little published data on the cost of HBV in the United States. The aim of this study is to investigate treatments patterns, medical resource use and treatment costs for each state of HBV infection.

METHODS: A questionnaire was developed and a physician survey conducted to obtain information about the treatment patterns for Chronic HBV in the United States. Data were collected from physicians in seven hospitals, across three different regions of the United States.

RESULTS: Patients were separated into those managed with and without antiviral medications. Lamivudine and Interferon alfa 2-B were the most common used antiviral agents, with a cost of R$921.17 (year patient) and R$15,424 (year/patient) respectively. The expected annual costs per patient were: R$7,561 (R$1,030, R$17,374) for chronic hepatitis B with antiviral medication, R$326 (R$212, R$512) for chronic hepatitis B without antiviral medication, R$6,279 (R$1,030, R$17,377) for compensated cirrhosis with antiviral medication, R$384 (R$212, R$535) for compensated cirrhosis without antiviral medication, R$16,522 (R$3,392, R$44,336) for decompensated cirrhosis, R$39,895 (R$38,678, R$41,112) for liver transplantation, R$29,858 (R$26,513, R$33,202) for transplant care after the first year and R$2,382 (R$1,731, R$3,032) for hepatocellular carcinoma.

CONCLUSIONS: These cost data can be used to model disease burden in the United States. Cost of antiviral medications influence disease costs in chronic HBV and compensated cirrhosis states. Costs increase dramatically in the more advanced health states, and indicate that slowing progression to these states may be cost savings. One USD = 3 R$ at the moment of the survey.