scenarios from removing a PA on lubiprostone when cost per PA $>15.34 or PA approval rate $>74.83%, or expected increase in prescriptions from lifting PA $<19.99%. CONCLUSION: PA program for lubiprostone offers no financial savings to a health plan based on current approval rates and annual utilization for patients suffering from CC in the base case as well as in sensitivity analyses.

INFECTION—Clinical Outcomes Studies

TREATMENT OF HEPATITIS C INFECTION FOR CURRENT OR FORMER SUBSTANCE ABUSERS IN A COMMUNITY SETTING

John-Baptiste A1, Varenbut M2, Lingley M3, Nedd-Roderique T1, Teplin D4, Daier J5, Krahn MD6
1Toronto General Hospital, Toronto, ON, Canada, 2Ontario Addiction Treatment Centres, Richmond Hill, ON, Canada, 3Round Trip Travel Health Clinic, Markham, ON, Canada, 4University Health Network, Toronto, ON, Canada

OBJECTIVE: The Ontario Addiction Treatment Centres (OATC) operates 26 clinics offering methadone maintenance treatment (MMT) to clients with a dependence on opiates. Until recently, MMT was a contraindication to antiviral therapy for the treatment of Hepatitis C virus (HCV) infected patients. The purpose of this study was 1) to describe a care model for treating HCV infected MMT clients in a community-based setting, 2) to describe clinical and demographic characteristics of these clients, 3) to assess rates of adherence to antiviral therapy, and 4) to assess rates of sustained virological response (SVR). METHODS: A review of patient medical records was employed. Clients considered for antiviral therapy at the OATC had achieved “functional stability”, characterized by stable housing and a low frequency of substance abuse, in addition to meeting clinical criteria. Clients were followed by a hepatitis nurse, clinic physician or infectious disease specialist at the clinic where they received methadone. Use of illicit substances was monitored before, during and after antiviral therapy with regular urinalysis. RESULTS: Between November 2002 and January 2006, 109 clients (75 with genotype 1/4 and 33 with genotype 2/3) received at least one injection with pegylated interferon. The majority of clients were single (60%), living in a permanent apartment or house (94%), with a high frequency of self-reported psychiatric disorders (68%). A large proportion had a criminal history (71%) and many had been incarcerated (52%). Rates of adherence to treatment of 57% and 70% were achieved for genotypes 1/4, and 2/3, respectively. Rates of SVR in an intention to treat analysis were 51% for genotypes 1/4 and 64% for genotypes 2/3. Six clients discontinued therapy due to on-going problems with substance abuse. CONCLUSION: HCV antiviral therapy for current or former substance abusers can be successful in the context of specialized care for substance abuse.

A SYSTEMATIC REVIEW OF THE EFFECTIVENESS OF PEGYLATED INTERFERON, LAMIVUDINE, ADEFOVIR AND ENTECAVIR FOR THE TREATMENT OF HEPATITIS B

Woo GW1, Sherman M2, Einason TR3, Ungar WJ4, Krahn MD5
1University of Toronto, Toronto, ON, Canada, 2University Health Network, Toronto, ON, Canada, 3The Hospital for Sick Children, Toronto, ON, Canada

OBJECTIVE: To systematically review the effectiveness of pegylated interferon (PEG), lamivudine (LAM), adefovir (ADF) and entecavir (ENT) in treating CHB. METHODS: Pubmed, Embase, Cochrane, and Econlit were searched for randomized controlled trials assessing the efficacy of the selected drugs for treating CHB.
Research on combination and sequential therapies may provide monotherapy with ADF or ENT as the most attractive SION: comparisons were limited by our one-year follow-up. Combination and sequential treatments were not superior, however outcomes and fewer adverse events and patient dropouts. Combination trials for comparison led to pooling of HBeAg-positive and negative studies. No treatment was superior for all outcome measures. Monotherapy was superior to placebo. Comparisons of single drugs favored treatment with ADF or ENT over LAM or PEG. LAM was superior to PEG with better clinical outcomes and fewer adverse events and patient dropouts. Combination and sequential treatments were not superior, however comparisons were limited by our one-year follow-up. Conclusion: Monotherapy with ADF or ENT are the most attractive treatment options within the first year of treatment. Further research on combination and sequential therapies may provide better options but presently insufficient evidence exists to support this approach.

DATA MINING PHYSICIAN DECISION AND INVESTIGATING TREATMENT OPTIONS OF OSTEOMYELITIS

Zahedi H
University of Louisville, Louisville, KY, USA

Objective: The purpose of this study is to investigate treatment options of osteomyelitis based on physician decisions recorded in our dataset. Methods: We want to find the frequency of a given input (code) for a variable, or more than one variable in health care data. Using the Thomson MedStat MarketScan data containing all patient claims for 40 million observations, the primary diagnosis code is given for each patient as well as fifteen possible secondary diagnoses. We use SAS Text Miner to demonstrate a simplified method to search these fifteen columns. We use ICD9 and CPT codes to find treatments for osteomyelitis. We also look for sequential treatments for recurrence of osteomyelitis. After filtering the data for osteomyelitis, there are 18,721 observations in inpatients that contain 2661 patients, and 233,001 observations in outpatients with 78,957 patients. Results: The difference between the number of observation and number of distinct patient IDs shows that most patients have a sequence of procedures during their treatment. After sorting the data by procedures, the most frequent (20%) is “Dorsal and dorsolumbar fusion, posterior technique”, second is “Excisional debridement of wound, infection, or burn” (15%), third “Amputation of toe” (9%), and in forth place, “Revision of amputation stump” (7%). In the outpatient data, the most frequent procedure is code 86.59 (Closure of skin and subcutaneous tissue of other sites) with 4021 records out of 8711 records. We found that about 8% of patients with osteomyelitis from inpatient data and about 20% of isolates from blood samples and abdominal fluid in critical care units (SUCI) and in >10% of samples from non-critical care services (SNUCI) in tertiary-level hospitals in Bogotá. Ampicillin was active against Enterococcus faecalis strains in Critical care units (SUCI) and other services (SNUCI), but >50% of E. faecium strains in SNUCI were resistant. Vancomycin-resistant strains occurred in >2% of E. faecalis strains identified in SUCI and >8% in SNUCI. The resistance trend in E. faecium to vancomycin in SNUCI was towards the low in the six years studied. Conclusion: This study confirms the worldwide trend towards an increase in infections due to Enterococcus. The emerging pattern of antimicrobial resistance among such isolates is alarming.

INTEREST OF MULTI-CRITERIA MODELING APPROACH IN ASSESSMENT OF YELLOW FEVER EPIDEMIC RISK

Beresniak A1, Briand S2, N’Guyen T2, Perea W2
1Data Mining International, Geneva, Switzerland, 2World Health Organization, Geneva, Switzerland

Objective: The danger of widespread and intense epidemics of yellow fever (YF) in Africa has become very serious, requiring urgent immunization response. Because it is not possible to vaccinate 100% of the adult population, the challenge is to prioritize immunization of the population at highest risk. An original risk assessment has been performed at the initiative of the World Health Organization, using modeling to enable countries to define populations currently at highest risk, which will be vaccinated in priority. Methods: Five exposure risk factors have been selected and collected at the district level in three African countries: Burkina Faso, Togo, Mali. The five indicators are: ecological risk zone, confirmed YF cases since 1960, suspected cases since 1960, number of YF cases notified since 1960, district close to another district that has notified cases since 1960, number of years in which YF cases notified since 1960, suspected YF cases since 1960, ecological risk zone, confirmed YF cases since 1960, district close to another district that has notified cases since 1960, number of years in which YF cases notified since 1960, number of YF cases notified since 1960, ecological risk zone, confirmed YF cases since 1960, district close to another district that has notified cases since 1960, number of years in which YF cases notified since 1960, background YF cases notified since 1960, background YF cases notified since 1960, background YF cases notified since 1960. A multi-criteria analysis based on multiple component analysis (MCA) has constructed a composite exposure indicator (CEi) from the five selected exposure risk factors. In reducing by mathematical projections the number of dimensions, MCA modeling synthesize complex data tables. Results: For each of the three target countries, three analyses have been done for rural districts, urban districts and rural+urban districts. Four risk clusters have been determined from the lowest risk to the highest risks, allowing the construction of detailed YF risk maps in Burkina-Faso, Togo and Mali. These “YF risk assessment maps” present in four colors the four risk clusters at each

Published in the English language from dates of inception to January 2007. Patients were considered to have CHB if they had elevated ALT levels and active viral replication. Monotherapy, combination and sequential therapies were included. Among trials that met our inclusion criteria, we abstracted data describing normalization of ALT, HBV DNA, sustained biochemical response, HBeAg seroconversion, histological improvement, drop-outs and adverse events. Intention-to-treat data were combined using a random-effects meta-analysis, with missing data considered as treatment failures. Outcomes were expressed as relative risks with 95% confidence intervals. Results: The initial search yielded 2064 references, 127 were excluded due to inadequate blinding, allocation concealment, randomization and reporting of outcomes; 20 studies were included. Trials involved 5573 patients (4121 males, 1309 females), ranging in size from 200–814 patients. Mean age was 40.7. Eleven trials studied HBeAg-positive patients, four trials studied HBeAg-negative patients, and four trials studied both. Due to small numbers of trials for comparison led to pooling of HBeAg-positive and HBeAg-negative studies. No treatment was superior for all outcome measures. Monotherapy was superior to placebo. Comparisons of single drugs favored treatment with ADF or ENT over LAM or PEG. LAM was superior to PEG with better clinical outcomes and fewer adverse events and patient dropouts. Combination and sequential treatments were not superior, however comparisons were limited by our one-year follow-up. Conclusion: Monotherapy with ADF or ENT are the most attractive treatment options within the first year of treatment. Further research on combination and sequential therapies may provide better options but presently insufficient evidence exists to support this approach.

ANTIMICROBIAL RESISTANCE PREVALENCE OF ENTEROCOCCI FROM BOGOTA, COLOMBIA HOSPITALS 2001–2006

Lemos EV1, Finaron TR2, Jimenez P3, Elava J4, Guatiero S1
1National University of Colombia, Bogota, Cundinamarca, Colombia, 2University of Toronto, Toronto, ON, Canada, 3Instituto Nacional de Cancerologia, Bogota, Cundinamarca, Colombia

Objective: To determine antimicrobial resistance profiles for Enterococcus in 14 tertiary-level hospitals in Bogotá, Colombia. Methods: Time series analyses were performed, as well as descriptive analyses of Enterococcus faecalis and Enterococcus faecium in hospitals belonging to the Bogotá Bacterial Resistance Control Group from January 1, 2001–January 1, 2007. We identified the presence and species of enterococcus according to anatomical site. Results: During that period, a total of 5770 strains of Enterococcus faecalis and 1259 of Enterococcus faecium were analyzed. Enterococcus was found in >20% of isolates from blood samples and abdominal fluid in critical care units (SUCI) and in >10% of samples from non-critical care services (SNUCI) in tertiary-level hospitals in Bogotá. Ampicillin was active against Enterococcus faecalis strains in Critical care units (SUCI) and other services (SNUCI), but >50% of E. faecium strains in SNUCI were resistant. Vancomycin-resistant strains occurred in >2% of E. faecalis strains identified in SUCI and >8% in SNUCI. The resistance trend in E. faecium to vancomycin in SNUCI was towards the low in the six years studied. Conclusion: This study confirms the worldwide trend towards an increase in infections due to Enterococcus. The emerging pattern of antimicrobial resistance among such isolates is alarming.

INTEREST OF MULTI-CRITERIA MODELING APPROACH IN ASSESSMENT OF YELLOW FEVER EPIDEMIC RISK

Beresniak A1, Briand S2, N’Guyen T2, Perea W2
1Data Mining International, Geneva, Switzerland, 2World Health Organization, Geneva, Switzerland

Objective: The danger of widespread and intense epidemics of yellow fever (YF) in Africa has become very serious, requiring urgent immunization response. Because it is not possible to vaccinate 100% of the adult population, the challenge is to prioritize immunization of the population at highest risk. An original risk assessment has been performed at the initiative of the World Health Organization, using modeling to enable countries to define populations currently at highest risk, which will be vaccinated in priority. Methods: Five exposure risk factors have been selected and collected at the district level in three African countries: Burkina Faso, Togo, Mali. The five indicators are: ecological risk zone, confirmed YF cases since 1960, suspected cases since 1960, number of YF cases notified since 1960, district close to another district that has notified cases since 1960, number of years in which YF cases notified since 1960, number of YF cases notified since 1960, background YF cases notified since 1960, background YF cases notified since 1960, ecological risk zone, confirmed YF cases since 1960, district close to another district that has notified cases since 1960, number of years in which YF cases notified since 1960, background YF cases notified since 1960. A multi-criteria analysis based on multiple component analysis (MCA) has constructed a composite exposure indicator (CEi) from the five selected exposure risk factors. In reducing by mathematical projections the number of dimensions, MCA modeling synthesize complex data tables. Results: For each of the three target countries, three analyses have been done for rural districts, urban districts and rural+urban districts. Four risk clusters have been determined from the lowest risk to the highest risks, allowing the construction of detailed YF risk maps in Burkina-Faso, Togo and Mali. These “YF risk assessment maps” present in four colors the four risk clusters at each