

total costs (in 2014 US dollars) were estimated for each urgent ABR threat, for each year analyzed. **RESULTS:** The number of CRE- and C. diff-related hospitalizations increased during the study period (CRE: 109,304 in 2001 to 692,680 in 2012; C. diff: 144,312 in 2001 to 359,395 in 2012) but decreased for N. gonorrhoeae (5,440 in 2001 to 4,130 in 2012). The mean LOS for all hospitalizations in the US between 2001-2012 was 4.58 days and mean per-patient cost of \$16,168. LOS for all urgent threats decreased over time (LOS: N. gonorrhoeae, 2001: 4.05 days, 2012: 3.92 days; CRE, 2001: 10.15 days, 2012: 6.98 days; and C. diff, 2001: 13.53 days, 2012: 10.41 days) while total costs increased for N. gonorrhoeae, (2001: \$9,963, 2012: \$14,675) and C. diff (2001: \$36,896, 2012: \$43,632) but not for CRE (2001: \$27,356, 2012: \$26,959). **CONCLUSIONS:** Although LOS among ABR-related hospitalizations in the US has decreased over time, costs for both N. gonorrhoeae and C. diff have increased, +47% and +18%, respectively. Future efforts to reduce the incidence of ABR infection will improve the public's health as well as decrease the associated economic burden.

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DIRECT MEDICAL COSTS AND ASSOCIATED FACTORS IN PATIENTS WITH CHRONIC HEPATITIS B IN GUGNGZHOU, CHINA: A FIVE-YEAR RETROSPECTIVE COHORT STUDY

Gao Y¹, Jia W², Zhou S¹, Xiao G², Li Y², Zhang J¹, Ke W¹, Zhang C¹, Yang Y¹

¹Guangdong Pharmaceutical University, Guangzhou, China, ²Guangzhou Eighth People's Hospital, Guangzhou, China

OBJECTIVES: To describe direct medical costs and factors associated with three disease stages of chronic hepatitis B virus infection (CHB) in Guangzhou, China. **METHODS:** We conducted a retrospective cohort study of patients with CHB using a hospital information system database from 2008 to 2012 in the largest specialized infection hospital in Guangdong Province, China. Average annual costs and cost components were calculated. Generalized estimating equations were applied to explore associations between factors and costs. All costs were adjusted to RMB in 2012 at a discounting rate of 5% per year. **RESULTS:** A total of 65,792 (58 455 outpatients and 7 337 inpatients) were involved in the analysis. Number of visits/admissions (mean) per case per year for outpatient and inpatient were as follows: CHB: 4.56/1.12; Cirrhosis: 4.34/1.24; HCC: 2.46/1.13; and the corresponding average costs per person-time were: CHB: 581.79 and 8994.90 RMB; Cirrhosis: 670.71 and 16574.44 RMB; HCC: 643.69 and 20900.89 RMB, respectively. Antiviral (47.93%) and non-antiviral medicines (34.44%, including 16.99% of liver protectors and 6.31% of traditional Chinese medicine) for outpatient were the main cost components. Inpatient non-antiviral medicine and lab test contributed 45.56% and 23.38% of total costs; but antiviral medicine was only at 6.28% of total costs. Male, elder, antiviral patients, cirrhosis and HCC patients had statistically significant higher costs as compared with female, younger, non-antiviral and CHB patients. Among the outpatients, self-payment patients' costs were the highest, followed by patients with medical insurance and free medical service, whereas opposite effect direction on costs was found in inpatients, and the differences were statistically significant. **CONCLUSIONS:** Direct medical costs of inpatients with CHB increase significantly as the disease progresses. Payment mode has different effect direction between outpatient and inpatient, indicating that reimbursement policy for clinic and hospitalized patients have an important role on direct medical costs in treating HBV.

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BURDEN AND PREDICTORS OF HOSPITALIZATION COSTS ASSOCIATED WITH ANTI-INFECTIVE ADVERSE EVENTS

Pawar AM, McConeghy RO, Caffrey AR, Kogut S

University of Rhode Island, Kingston, RI, USA

OBJECTIVES: To assess the burden of and identify predictors of hospitalization costs associated with adverse drug events (ADEs) related to anti-infectives that were present on admission (POA) in US hospitals. Furthermore, we sought to identify differences in costs by gender and age groups. **METHODS:** Using the 2012 Nationwide Inpatient Sample, we identified ADEs associated with anti-infectives using diagnosis codes (ICD-9-CM) and E codes. Differences in average and median hospitalization costs between subgroups were assessed using t-tests and Wilcoxon non-parametric median tests. To assess predictors of cost, we developed a generalized linear model (GLM) using the Modified Park test, Box-Cox regression test, Akaike information criterion and residual analysis to improve model fit. Results were weighted to obtain nationally representative cost estimates in 2012 dollars. **RESULTS:** Our study identified 49,623 discharges with POA ADEs (national estimate= 248,095) associated with anti-infectives with a total cost of \$2.1 billion (national estimate=\$10.6 billion). The mean cost for each hospitalization was \$43,499 (SD= \$76,865, median= \$23,565, interquartile range=\$13,189-\$45,424) with a range \$275 to \$2,995,306. The mean length of stay (LOS) was 6.64 days (SD= 7.84, median= 5) and ranged from 0 to 354 days. Total hospitalization costs were significantly (p= <.0001) higher for males (4.50%) and those aged 65 years or older (3.34%). GLM with gamma family and log link was a better model compared to ordinary least-squares. Using this model, we identified several significant cost predictors: LOS, age at admission, race, gender, median household income, hospital bed size and numerous comorbidities. Our model estimated that the cost of hospitalization, which was \$67,528 for LOS of one day, increased 11.20% with each day increase in LOS. Each year increase in age caused 0.05% increase in hospitalization costs. **CONCLUSIONS:** Our findings suggest that ADEs associated with anti-infectives are more costly when they occur in older patients and among those with medical comorbidities.

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IMPACT OF DIFFERENT TREATMENT RATES FOR HEPATITIS C INFECTED PATIENTS ON THE EPIDEMIOLOGIC & ECONOMIC BURDEN IN EGYPT

Shelbaya A¹, Kuznik A², Salem M³, Sadik K⁴, Mankoula W⁵

¹Columbia University, New York, NY, USA, ²Lagos University, Lagos, Nigeria, ³Save The Children Egypt, Cairo, Egypt, ⁴Brandeis University, Waltham, MA, USA, ⁵Egyptian Ministry of Health, Cairo, Egypt

OBJECTIVES: HCV infection in Egypt is one of the highest in the World. The objective of the study is to support Egyptian decision makers by comparing different treatment rates with the recent approved Hep C antiviral agents, and its implications on prevalence progress and associated costs. **METHODS:** The analysis was based on a 17-year Markov model. Patients would progress through the various HCV stages from F0 to F3 followed by cirrhosis. Following cirrhosis to other progressive stages up to hepatocellular carcinoma and liver related death. Patients could be cured spontaneously in state F0 or as a result of antiviral therapy in any state from F0 to cirrhosis at a cure rate of 92% in stages F0-F3 and a cure rate of 80% in the stage of cirrhosis. Cured patients would transition to the mortality risk of the age-matched general population. In each cycle, new incident patients were also introduced at a rate of approximately 128,000 or 2%. **RESULTS:** Treating 8% of the infected cases each year (450K viremic cases/year) would bring the prevalence to 1 million by 2030. A treatment rate of 1% (65Kcases/yr) or 5% (300Kcases/yr) would bring the prevalence to 5.5 million and 2.5 million respectively by 2030. Total annual costs would start at \$1.3 billion in the first year of treatment for the 8% treatment rate but would decrease to \$580 million/yr by 2030. The 5% and 1% rates would start at \$900 million & \$550 million. **CONCLUSIONS:** A treatment rate of 450Kcases/yr would bring the prevalence to 1 million by 2030. Costs would be significantly high during the first 5 years, but eventually would drop as the disease burden decreases. Alternative scenarios wouldn't eliminate the disease by 2030. A screening policy need to be in place & health infrastructure assessed in preparation for the rising numbers of patients receiving treatment

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ECONOMIC BURDEN OF COMMUNITY-ACQUIRED PNEUMONIA AMONG ADULTS IN THE PHILIPPINES ITS CLINICAL AND POLICY IMPLICATIONS IN THE CASE RATE PAYMENTS OF THE PHILIPPINE HEALTH INSURANCE CORPORATION

Tumanan-Mendoza BA¹, Mendoza V², Punzalan FE³, Reganit PF⁴, Bacolcol SA¹

¹Manila Doctors Hospital, University of the Philippines College of Medicine, Manila, Philippines,

²De La Salle Health Sciences Institute, Dasmariñas, Cavite, Philippines, ³Manila Doctors

Hospital, University of the Philippines College of Medicine & Philippine General Hospital, Manila, Philippines, ⁴University of the Philippines College of Medicine & Philippine General Hospital,

Manila, Philippines

OBJECTIVES: To determine (1) the cost of hospitalization and 1-week post-discharge, (2) the difference between estimated costs and the Philippine Health Insurance Corporation (PhilHealth) pneumonia case rate payments, and (3) the economic burden of community-acquired pneumonia (moderate and high-risk, CAP-MR and CAP-HR, respectively) among patients aged > 19 years old in the Philippines. **METHODS:** The study involved two tertiary private hospitals in the Philippines. Using the societal perspective, out-of-pocket expenses and productivity losses were computed. A base case and sensitivity analyses were performed and the economic burden of pneumonia was determined using PhilHealth claims. **RESULTS:** The estimated cost of hospitalization for CAP-MR was PhP 36,153 - 113,633 (US\$852 - 2,678) and the 1-week post-discharge cost for CAP-MR was PhP 1,450 - 8,800 (US\$ 34 - 207) The cost of hospitalization for CAP-HR was PhP 104,544 - 249,695 (US\$2,464 - 5,885) and PhP 101,248 - 243,495 (US\$2,386 - 5,739) with the use of either invasive ventilation or non-invasive ventilation, respectively. The post discharge cost for CAP-HR was PhP 1,716 - 10,529 (US\$40 - 248). In comparison, the present PhilHealth case rate payments for CAP-MR is PhP 15,000 (US\$354) and PhP 32,000 (US\$754) for CAP-HR. Based on the number of PhilHealth claims for the year 2012 and the study results, the economic burden of pneumonia in 2012 was PhP 8.48 billion for CAP-MR and PhP 643.76 million for CAP-HR. **CONCLUSIONS:** The paper reported the hospitalization and follow-up costs of CAP-MR and CAP-HR based on the societal perspective. It showed significant difference from the current case rate payments of the Philippine Health Insurance Corporation.

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COSTS AND CHALLENGES ASSOCIATED WITH DIAGNOSIS AND TREATMENT OF INFECTIONS IN HOSPITALIZED PATIENTS: A RETROSPECTIVE US ELECTRONIC HEALTH DATABASE STUDY

Durtschi AJ¹, Khangulov VS², Peyerl FW², Sammy Y³

¹Abbott Laboratories, Abbott Park, IL, USA, ²Boston Strategic Partners, Inc., Boston, MA, USA,

³Abbott Laboratories, Baar, Switzerland

OBJECTIVES: While it is known that accurate and timely diagnosis and treatment of infections can present a major healthcare challenge, there is a lack of in-depth studies examining infection diagnosis and treatment practices and their associated costs in large real-world patient populations. The study objective was to examine infection prevalence, current diagnosis and treatment practices, and costs associated with managing patients with infections via retrospective analysis of a large US electronic health record database. **METHODS:** Patients with infections were identified based on the use of antimicrobial therapy for >24 h following hospital admission. Infection type was identified using ICD-9 diagnosis coding. Patients were classified into four groups: (1) pneumonia, (2) sepsis without pneumonia, (3) other infectious etiology, and (4) non-infectious etiology initially suspected as infectious. Illness severity was assessed using the Acute Physiology Score. Diagnostic procedures and treatments were identified via ICD-9 procedure coding and pharmacy order data, respectively. Per-patient cost estimates (\$USD), calculated over 15 days from admission, encompassed diagnostic tests, radiologic procedures, and antimicrobial and other pharmaceutical treatments. **RESULTS:** In total, 127,174 patient visits met inclusion criteria. Pneumonia was the most common infection type (20.1% of visits), followed by other infectious etiology (16.0%) and sepsis without pneumonia (7.0%). Non-infections initially suspected as infections represented 56.9% of visits. Overall, 62.5% of patients had medium or high illness severity. Length-of-stay was >5 days for 49.2% of patients. Bacterial tests accounted for 92.4% of diagnostic tests, and antibiotics accounted for the majority (>98%) of antimicrobial treatments. Suspected infections with non-infectious etiology had the highest per-patient costs for low-severity (\$14,228) and medium-severity patients (\$12,551). For high-severity patients, pneumonia carried the highest per-patient cost (\$14,541). **CONCLUSIONS:** This study demonstrates that the