THE COST-EFFECTIVENESS OF UNIVERSAL INFuenZA VACCINATION FOR 50–64 YEAR-OLDS IN Australia
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OBJECTIVES: Currently the Australian government funds universal influenza vaccination for persons aged 65 years and over, with annual vaccine coverage estimated to be 79%. However, over a quarter of Australians aged 50–64 years have an underlying medical condition which puts them at risk of severe consequences from influenza, with annual vaccination rates of only 33% (government-subsidised and private) estimated for this age group. The objective of this study was to examine the cost-effectiveness of extending universal free vaccination in Australia to those aged 50–64 years. METHODS: A decision analytic model previously developed for Europe was adapted to the Australian setting. Costs and benefits of universal influenza vaccination were compared to those of the existing delivery mechanisms in 50–64 year-olds. The following complications were included: influenza-like illness, influenza-attributable hospitalisations, influenza-attributable mortality, and work days lost. The model distinguished between those at high-risk and those at low-risk, to allow for different complication rates and different vaccine uptake between risk groups. Rates of complications and their associated costs (A$, 2005) were based on Australian-derived data, and vaccine effectiveness based on published data. The discount rate was 5% consistent with Australian policy. Cost-effectiveness ratios assessed included cost per Life-Year Saved (LYS) and cost per Quality-Adjusted Life-Years Saved (QALYS), and primarily considered the health care cost perspective which is relevant to government funding decisions.
RESULTS: Compared to existing mechanisms, from a health care perspective a universal influenza vaccination policy has an incremental cost-effectiveness ratio (ICER) of A$9,660 per LYS, and A$12,520 per QALYS. The most influential parameters in sensitivity analysis included probability of death from influenza, vaccine efficacy against mortality, vaccine uptake, vaccine cost, and cost of vaccine administration, although the upper values were all below A$37,000. CONCLUSION: Universal influenza vaccination of Australians aged 50–64 years is a highly cost-effective strategy. The ICER is well within accepted thresholds for government funding.

A COST-MINIMIZATION ANALYSIS COMPARING DIFFERENT ANTIBIOTIC REGIMENS USED IN TREATING PNEUMONIA IN HONG KONG
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OBJECTIVES: The study was aimed to (1) compare the costs of different antibiotic regimens in the treatment of patients diagnosed with pneumonia that required hospitalization, and (2) investigate if the initial choice of antibiotic affected the initial treatment success rates and death rates. METHODS: The study adopted a multi-center, retrospective case notes review design. Patients aged above 18 years old admitted to the Princess Margaret Hospital of Hong Kong during May 2005 to April 2006 and with a principal discharge diagnosis of pneumonia were included. Direct medical costs were estimated based on the medications, diagnostic tests, hospital stay and allied-health professional visits. The study was conducted from a public hospital’s perspective. RESULTS: A total of 333 medical case notes were reviewed. The most commonly prescribed antibiotic regimen was amoxicillin-clavulanate (AC) regimen (63.7%) as compared to amoxicillin-clavulanate plus macrolide (ACM) regimen (17.4%), quinolone (Q) regimen (8.4%) and others (10.5%). The mean costs per patient for AC, ACM, and Q regimens were US $6992 (SEM: 353.4), US $6856.0 (SEM: 496.1) and US $6568.8 (SEM: 770.1) respectively. The treatment success rates for AC, ACM and Q were 66.0%, 77.6% and 78.6% respectively and the death rates were 13.7%, 0% and 14.3% respectively. The mean costs per patient for AC, ACM and Q regimens for patients with a history of chronic obstructive pulmonary disease (COPD) were US $8778.2 (SEM: 727.9), US $9762.7 (SEM: 1476.4) and US $6712.0 (SEM: 1216.9) respectively. CONCLUSION: There was no significant cost difference in the antibiotic regimens for pneumonia management. However, Q regimen was found to be superior to AC and ACM regimens in treating patients with COPD. Further studies involving more patients and study sites are needed to confirm the results.

AZITHROMYCIN PLUS CEFTRIAXONE VERSUS LEVOFLOXACIN IN THE TREATMENT OF HOSPITALIZED PATIENTS WITH COMMUNITY-ACQUIRED PNEUMONIA IN SPAIN: A COST-MINIMIZATION ANALYSIS
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OBJECTIVES: Consistent with recommendations from professional societies, two of the most common approaches to empiric community-acquired pneumonia (CAP) therapy are sequential therapy with IV azithromycin plus IV ceftriaxone followed by oral azithromycin, and IV levofoxacin followed by oral levofoxacin. The purpose of this study is to assess the economic impact of those regimens in a Spanish setting using an economic model. METHODS: A cost-minimization analysis was performed from the hospital perspective as the same efficacy was observed. Resource use was based on the results from a randomized, open-label multicenter trial (Zervos, Treat Respir Med 2004). Mean length of stay (LOS) and general medical wards LOS were 8.8 and 7.4 days in the levofoxacin group vs. 7.0 and 5.7 days in the azithromycin group. Days on study medication was 13.7 IV + 2.9 oral and 3.2 IV + 12.2 oral in the levofoxacin and azithromycin group, respectively. Only in-hospital (€2007) direct costs per-patient were considered: hospitalization costs (ICU-general ward), drug acquisition cost (at their hospital selling prices) and administration costs. Costs were obtained from Spanish databases. Univariate and bivariate threshold sensitivity analyses were carried out to test the robustness of the model. RESULTS: Mean cost per patient treated is estimated to be €2666.0 with azithromycin plus ceftriaxone and €3532.9 with levofoxacin, with an incremental cost of €866.9. Azithromycin-LOS reduction was the main cause for most of the difference cost. The sensitivity analysis showed that levofoxacin would be less costly than azithromycin only if levofoxacin-LOS were lower than 4.8 days. The robustness of the model is related to daily cost and LOS. CONCLUSION: According to this model, azithromycin plus ceftriaxone is less costly than levofoxacin-therapy for treating community-acquired pneumonia patients requiring hospitalization in Spain. The cost benefit attributable to azithromycin depends on its role in reducing the length of stay.