length of stay in the hospital is about 3.5 days. **CONCLUSIONS:** After the logistic and linear regressions, the results showed a small correlation with cellulitis. The likelihood of having a bacterial infection or having infections with microorganisms increases with cellulitis. The likelihood of having a venous catheterization, having the skin drained, or having the tendon sheath of the hand explored increases with cellulitis.

## INFECTION – Cost Studies

**PIN8**

### THE ECONOMIC IMPACT OF TRANSITIONING VALACYCLOVIR TO OVER THE COUNTER STATUS FOR THE TREATMENT OF GENITAL HERPES

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**OBJECTIVES:** Genital herpes affects more than 45 million individuals in the United States with an estimated 400,000 physician office visits each year for primary infections. With no cure for the herpes infection, it can be transmitted from the infected individuals to the unsuspecting population throughout the lifetime of the infected. With the approaching patent expiration for the prescription drug valacyclovir (Valtrex®) in 2009, this study examines the implications of transitioning valacyclovir to an over the counter (OTC) status. **METHODS:** A decision analysis model was used to examine the current prescription based requirement for valacyclovir compared to the OTC status for the product. The analysis was constructed from a societal perspective using a budget impact model. A simulation model conducted in a hypothetical cohort of 10,000 individuals with primary genital herpes in the United States with direct medical cost as the principal outcome. Cost estimations are based on literature review and national health care databases. A sensitivity analysis through a Monte Carlo simulation will assess the validity of the cost estimates. **RESULTS:** The transition of valacyclovir to OTC status will amount to an average annual savings of $707 ($544–$868) per newly infected individual in the form of direct medical expenditures. The annual average cost for the OTC transition is $108 per newly infected, compared to the annual average cost of the prescription based requirement of $815 per newly infected. Aggregate annual savings to the United States from newly infected individuals is $282 million per year. **CONCLUSIONS:** Transitioning valacyclovir to OTC status is a cost saving measure for society, largely due to the decrease in physician office visits for valacyclovir prescriptions. Further studies will need to address specific population needs in regards to herpes education, feasibility of self-diagnosis, viral resistance and indirect cost.

**PIN9**

### INCREASING THE AVAILABILITY OF ATAZANAVIR IN THE MINISTRY OF HEALTH (MOH) PUBLIC INSTITUTIONS IN MEXICO: A BUDGET IMPACT ANALYSIS

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**OBJECTIVES:** Studies in Mexico have shown that the health expenditure attributed to antirretroviral treatments for naïve and experimented patients is high. This has an impact on the national budget of the public health institutions, especially for units from the Ministry of Health which deal with the largest number of HIV/AIDS cases in the country. The objective of this analysis was to estimate the financial impact of increasing the availability of atazanavir for the treatment of patients with HIV/AIDS in the MoH institutions. **METHODS:** A budgetary impact model based on epidemiological data, treatment costs and market uptake for four proteasa inhibitors (PI) in a time horizon of five years was developed. A baseline scenario, where the current PIs market distribution remains the same, was compared with a scenario where atazanavir availability is increased. **RESULTS:** The estimated numbers of infected HIV/AIDS subjects will grow around 53.48% in the next five years. As a result, more resources will be needed to face the increasing burden of the disease. The comparisons between the two scenarios show that the estimated budget impact related to the acquisition of PI is cost-saving. The estimated savings in 2009 are of US$1.168 million increasing 3.4 times during the five years period. Savings from the treatment of main side effects such as, diarrhea and cholesterol lowering intervention are also observed (US$ 12,777 and US$17,861 in 2009 respectively). **CONCLUSIONS:** An increase in the utilization of atazanavir represents a good clinical and economic option for the Mexican MoH in the short and long run. The highest impact in the budget is produced mainly by the pharmacological costs. However, budget savings are also derived from the reduction of treatment costs side effects such as diarrhea and hypercholesterolemia.

**PIN10**

### BUDGET IMPACT OF ANTIMALARIA DRUG FORMULARY DECISIONS: A RETROSPECTIVE ANALYSIS FROM A NIGERIAN TEACHING HOSPITAL

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**OBJECTIVES:** To quantify the Budget Impact of antimalaria drug formulary decisions in a Nigerian Teaching Hospital. **METHODS:** A retrospective random sample of 17,000 prescriptions (2001–2008) with the wholesale prices of each prescribed drug was collected from pharmacy records. The total number of prescriptions per day, the date and the therapeutic class of the prescribed drugs were also noted. From this data, estimates of the proportion of patients that received a particular antimalaria medicine and the year of introduction or deletion of the drug from the drug formulary were made. The costs of a complete dose required for the treatment of a patient suffering from malaria when prescribed a given antimalaria drug were calculated from the extracted wholesale prices. These variables served as input in a stochastic Monte Carlo model which was built to simulate the Budget Impact of each identified formulary decision by subtracting the total cost of drugs in the Old Drug Scenario from that of the New Drug Scenario. Negative values represent cost savings. A sensitivity analysis was conducted by varying the input parameters by ± 50%. **RESULTS:** Halofantrine was introduced into the hospital formulary in 2002 with a resultant significant ($p < 0.0001$) savings of NGN1.02million with a mean of NGN0.16million. The introduction of arthemisinin combination therapies (ACTs) in 2005 with the addition of IM arthemether in 2007 led to an increase expenditure of NGN3.02million ($p < 0.0001$) and NGN0.07million ($p = 0.171$) respectively. In 2008, the number of patients that were prescribed ACTs decreased from 80.9% in 2007 to 67.9%. This strategy produced a cost saving of NGN6.27million which was significant ($p < 0.0001$). Sensitivity analysis confirmed the robustness of the model. **CONCLUSIONS:** Introduction of ACTs into the hospital drug formulary significantly increased drug expenditure. We therefore suggest that a CEA of available antimalarials may prove to be a valuable tool to this budget holder.

**PIN11**

### MODELING THE INPATIENT AND OUTPATIENT COSTS OF METHICILLIN-RESISTANT STAPHYLOCCOCUS AUREUS (MRSA) COMPLICATED SKIN AND SOFT TISSUE INFECTIONS (CSSTI): A COMPARISON OF LINEZOLID, VANCOMYCIN, DAPTOMYCIN, AND TIGECYCLINE

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**OBJECTIVES:** Previous economic analyses of MRSA-confirmed cSSTI have not included costs related to outpatient parenteral antibiotic therapy (OPAT). The objective of this analysis was to develop an economic model to estimate medical and drug costs within both inpatient and outpatient components of care for treating MRSA cSSTI. **METHODS:** A 4-week decision model was developed to estimate the direct total, inpatient, and outpatient costs of treating MRSA cSSTI from a U.S. payer perspective taking into account successes, failures, and adverse events (AEs). Comparators included vancomycin, linezolid, daptomycin, and tigecycline. Published literature and database analyses, with validation by experts, provided clinical inputs and resource use data including MRSA efficacy, length of stay (LOS), consequences of AEs and cSSTI failure, OPAT services, among others. Cost data was derived from literature and standard CPT coding reimbursements. The base case analysis assumed equal efficacy and equal LOS of 4 days among comparators. Univariate and probabilistic sensitivity analyses tested efficacy, complication rates, LOS, and other resource use parameters. Costs were reported in 2008US$. **RESULTS:** Total drug acquisition costs were >4–6 times lower for vancomycin compared to tigecycline, linezolid, and daptomycin. However, the total 4-week cost of treatment including drugs, clinical failures, complications, and OPAT were lowest for linezolid ($8,149), followed by vancomycin ($8,974), tigecycline ($10,333), and daptomycin ($11,362). Oral linezolid reduced the outpatient medical costs by 10-fold versus IV comparators. The most sensitive model variables for total cost were the MRSA efficacy, hospital LOS, OPAT days, and line placement/complication costs. **CONCLUSIONS:** Although total drug acquisition costs were lower for vancomycin vs. comparators, the model suggests linezolid provides total cost savings in cSSTI versus IV therapies, particularly in the outpatient arena. The budget impact of antimicrobials for cSSTI should consider total medical cost offsets from both inpatient and outpatient perspectives.

**PIN12**

### COST-EFFECTIVENESS ANALYSIS OF DAPTOMYCIN VERSUS VANCOMYCIN IN COMPLICATED SKIN AND SOFT STRUCTURE INFECTION (CSSSI) USING A DECISION ANALYTIC MODEL

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**OBJECTIVES:** To evaluate the cost-effectiveness of daptomycin versus vancomycin in complicated skin and soft structure infections (cSSSI). **METHODS:** A decision analytic (DA) model was developed to evaluate the cost-effectiveness of daptomycin versus vancomycin in cSSSI. The payer perspective was adopted and total direct costs related to cSSSI were measured. Efficacy (cure) was defined as a patient who was treated empirically with the study drug, had a positive culture of Methicillin-resistant Staphylococcus aureus did not relapse at the test of cure. Previous literature was used to determine the parameters of the model. Costs were determined from 2008 Drug Red Book and Decision Support System database. Primary outcome was the incremental cost-effectiveness ratio (ICER) of daptomycin over vancomycin. One-way sensitivity analyses was performed for all parameters and presented in a tornado diagram. Probabilistic sensitivity analysis was performed on all parameters using 10,000 trial simulations. **RESULTS:** In the base-case analysis, daptomycin and vancomycin arms had total direct costs of $11,162.88 and $16,307.74, respectively. Cure probabilities for patients in the daptomycin and vancomycin arms were 51.6% and 40.2%, respectively. Cost-effectiveness ratio for daptomycin and vancomycin were $21,619.78/cure