4) The Cost per Event-Free Patient model, based on the results of the IDEAL Trial, compared cost effectiveness of the agents included in that trial—high-dose (80 mg) atorvastatin vs. low-dose (20–40 mg) simvastatin.

In addition, a budget impact analysis was performed to assist the Committee in determining which group of agents best met the majority of the clinical needs of the DoD population at the lowest cost to the MHS.

Implementation Strategy: On 23 October 2006, the Director, TMA signed a decision paper accepting the DoD P&T Committee's Antilipidemic-1 UF recommendations, with an implementation date of 1 February 2007. Accordingly, atorvastatin, fluvastatin immediate and extended release, pravastatin, simvastatin, lovastatin immediate & extended release, lovastatin/niacin, ezetimibe/simvastatin, niacin immediate and extended release, and ezetimibe were maintained as formulary on the UF and rosuvastatin and atorvastatin/amlodipine were classified as non-formulary under the UF.

Results: The DoD P&T Committee met its primary goal by providing a broad array of Antilipidemic-1 agents sufficient to meet the clinical needs for the majority of the DoD population. It also met two of its primary objectives: 1) two agents were included on the UF, in addition to simvastatin 80 mg, capable of achieving ≥45% LDL reduction (atorvastatin and simvastatin/ezetimibe); 2) agents determined not to be cost-effective relative to other agents in the class were designated as non-formulary on the UF. Whether or not the DoD is successful in preserving simvastatin market share will be closely monitored as this decision is implemented.

Lessons Learned: Presentation of results from multiple cost effectiveness models—which focus on different outcomes and use different methods, but are all based on an evidence-based review of the clinical and pharmacoeconomic literature—increased the Committee's confidence in making recommendations in this class. The BIA, which incorporated factors not included in the cost effectiveness models, further refined the Committee's understanding of the expected benefits resulting from various formulary scenarios.

PCASE2

EVALUATION OF LEVALBUTEROL USE IN A >600 BED TEACHING HOSPITAL

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Organization: University of Maryland Medical Center

Problem or Issue Addressed: Excessive use of a high cost non-formulary drug.

Goal: To evaluate the use of Levalbuterol in a teaching hospital and to determine need for inclusion (if any) on the hospital formulary.

Outcomes items used in the decision: Levalbuterol is FDA-approved for the treatment or prevention of acute bronchospasm in adults, adolescents, and children aged 6 or older with reversible obstructive airway disease. Our institution recently realized a significant increase in the purchasing of this agent, which prompted an intensive evaluation of the prescribing habits surrounding levalbuterol. The purpose of our study was to identify the indications for levalbuterol use, evaluate the appropriateness of dosing, determine contraindications to alternate therapies, and recognize adverse events, if any, associated with levalbuterol use.

Implementation Strategy: This evaluation was a criteria-based, retrospective evaluation of all patients for whom levalbuterol was prescribed over an 18 month period. All patients were identified from computerized pharmacy records. Patient therapy was evaluated via physician progress notes, laboratory reports, and physician orders. Purchase data was determined via the pharmacy's computerized medication inventory management system.

Results: The majority of levalbuterol use was in pediatric patients (27%), followed by cardiac surgery patients (17%) and internal medicine service patients (14%). Indications of shortness of breath or respiratory distress associated with various disease states and medical procedures comprised 38% of levalbuterol use. 35% of use was in COPD (20%) and asthma (15%) combined. The majority of patients received levalbuterol for <3 days at a dosing frequency of less than every 6 hours. 80% of patients received albuterol therapy prior to levalbuterol administration. No adverse events related to levalbuterol use were reported.

Conclusions/Lessons Learned: Our study reveals that patients are prescribed levalbuterol for a variety of indications, most of which are non-FDA approved uses. Patients at high risk for cardiac side effects, including pediatric and cardiac surgery patients, are likely to receive levalbuterol. Prescribers typically utilize levalbuterol after patients failed to improve on or experienced side effects to albuterol. Dosing frequency exceeded approved labeling and established guidelines in most cases. Determined there may be a need to include levalbuterol on the hospital formulary restricted to pediatric patients meeting certain specific criteria.

PCASE3

USING OUTCOMES RESEARCH TO SUPPORT ANITBIOTIC SELECTION

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Organization: Healthsouth Sunrise Rehabilitation Hospital

Problem or Issue Addressed: Increasing costs of Antibiotics

Goals: To determine the reasons for increased costs of antibiotics at a rehabilitation hospital, and to determine whether interventions were necessary to reduce costs and improve outcomes.

Outcomes items used in the decision: a) organism susceptibility per cultures when compared to empiric antibiotics selected; b) proportion of empiric antibiotics subsequently determined to be resistant; c) incidence of intravenous medications when patient was receiving oral medications; d) duration of antibiotic therapy when patient was asymptomatic (and compared to recommended duration of therapy); and e) appropriate dose and interval based on patient's renal function.

Implementation Strategy: Random sampling of patients receiving antibiotics used in the previous 12 months.

Results: 1. More cost-effective medication were available empirically in the treatment of UTI and Cellulitus. 2. Selection of resistant antibiotics occurred infrequently, but when encountered, the change in antibiotics was delayed at times. 3. Some asymptomatic patients who were receiving all other medications oral could have been switched from IV to PO antibiotics. 4. Some excess duration because of antibiotic use at prior facility. 5. Dose and interval appropriate with some adjustments require for renal function, readily accepted by physicians.

Conclusions/Lessons Learned: Antibiotic selection needs some intervention. Three part program will be implemented: 1. Some restrictions on availability of ordering IV antibiotics without ID consult. 2. Physician education as to proper dose, interval, and frequency. 3. A pharmacy-run infectious disease service to guide empiric selection and ensure quick review of cultures.