

## Abstracts

147

of all examination procedures. Bypass and repair of vessel procedures gradually rose throughout the ten years after initial diagnosis, while amputations and skin grafts remained relatively constant. Procedures involving arteriography rose until year 5 and then tapered off, while utilization of ultrasonography rose in year 7 and tapered off. The Point Prevalence of inpatient confirmed PAD was 2.185/100, and the incidence per 1000 patients for 1993, 1994, and 1995 was 1.09, 1.10, and 1.03 respectively. **CONCLUSION:** The results of this research provide a foundation for understanding the ten-year trends associated with PAD-related inpatient procedural care utilization. These results suggest that PAD-related studies should consider the progression of the disease past the 5<sup>th</sup> year after the initial inpatient visit for PAD when measuring a change in inpatient procedural outcomes.

**PSG2**

**TEN-YEAR COSTS ASSOCIATED WITH PERIPHERAL ARTERIAL DISEASE-RELATED INPATIENT PROCEDURES IN THE DEPARTMENT OF DEFENSE**

Zachry WM, Shepherd MD, Wilson JP, Lawson KA  
The University of Texas at Austin, Austin, TX, USA

**OBJECTIVE:** The objective of this study was to explore the trends associated with inpatient procedural medical care costs the first ten years after initial inpatient confirmation of peripheral arterial disease (PAD). **METHODS:** A retrospective review of the computer records of all the beneficiaries of the Department of Defense health care system was conducted, and over 8000 subjects with an initial inpatient confirmation of PAD between 1/1/80 and 12/31/85 were reviewed for ten years following the initial visit. 1997 Medicare 50<sup>th</sup> percentile reimbursement costs for PAD related procedures were collected and used in the analysis. Opportunity costs associated with the inpatient procedures performed were also calculated by utilizing the Bureau of Labor and Statistic's hospital services price index, and future value calculations. **RESULTS:** Costs for PAD-related invasive procedures rose gradually over the ten years after initial diagnosis, while the cost of examination procedures was highest in the 1<sup>st</sup>, 5<sup>th</sup>, and 10<sup>th</sup> years. Invasive procedures made up 85.5% of the total ten-year procedural costs, with 10 specific ICD-9-CM codes accounting for 90% of those costs. Four examination procedures represented 90% of all examination procedure costs. Procedures involving vascular bypass had the highest aggregate costs associated with invasive procedures, and procedures involving arteriography had the highest aggregate costs associated with examination procedures. The institution's opportunity costs were over one quarter a million 1997 US dollars at a 10 percent investment rate. **CONCLUSION:** The results of this research provide a foundation for understanding the ten-year trends associated with PAD-related inpatient procedural costs. These results suggest that reducing procedures

involving bypass and arteriography would have the greatest impact on PAD-related procedural costs.

**PSG3**

**COSTS INCURRED DURING INPATIENT ADMISSION FOR COMMON SURGERIES: PRELIMINARY RESULTS**

Strassels S<sup>1</sup>, Chen C<sup>2</sup>, Carr D<sup>1</sup>, McDonagh M<sup>1</sup>, Gouveia W<sup>1</sup>, Wurm H<sup>1</sup>

<sup>1</sup>New England Medical Center, Boston, MA, USA; <sup>2</sup>Searle Pharmaceuticals, Skokie, IL, USA

Recent efforts to limit health care cost increases have focused on prescription drugs. Although millions of surgical procedures are performed in the US each year, limited information is available about perioperative costs incurred by persons undergoing surgery. These types of data are expected to be important to clinicians and decision-makers as financial pressure increases to define, understand, and rationalize medical costs. **OBJECTIVES:** This pilot study identified the costs associated with inpatient hospitalization after common abdominal or orthopedic surgeries. **METHODS:** Total costs from admission until discharge were identified using the hospital perspective for persons undergoing total abdominal hysterectomy (TAH), or total joint (hip or knee) replacement (TJR) between August and November 1999. **RESULTS:** Patient's average age was 53.0 years for all patients, 43.7 years for TAH, and 59.1 years for TJR. More than 70% of participants had private insurance. Average length of stay was 3.6 days overall, 3.2 days for TAH, and 4.3 days for TJR. Mean total costs were \$6596 for all persons (n = 8), \$5495 for TAH (n = 5), and \$8431 for TJR (n = 3). Routine room and operating room costs accounted for 72.5%, 76.3%, and 68.3% of the total, TAH, and TJR costs, respectively. Pharmacy costs accounted for 4.4% of total costs, 5.9% of TAH costs, and 2.8% of TJR costs. **CONCLUSIONS:** Most of the costs incurred during the perioperative period are related to the surgical procedure and per diem costs. Efforts to restrict pharmacy costs are unlikely to significantly affect total costs.

**PSG4**

**TRAUMATIC COLON INJURIES: DIFFERENCE IN HOSPITAL COSTS BY TYPE OF SURGICAL REPAIR**

O'Brien J<sup>1</sup>, Pierce D<sup>1</sup>, Jacobs L<sup>2</sup>

<sup>1</sup>Caro Research, Concord, MA, USA; <sup>2</sup>Department of Traumatology and Emergency Medicine, Hartford Hospital, Hartford, CT, USA

Clinical practice guidelines are advocating the use of primary repair (PR) for treating a penetrating intra-peritoneal colon injury when clinically appropriate. **OBJECTIVE:** To estimate the difference in hospital costs in treating penetrating colon injuries by PR versus diverting

colostomy (DC). **METHODS:** Patient-level data from 1996/1997 California and Massachusetts discharge databases were examined. Relevant cases, identified by unique patient identification, ICD9 diagnosis, procedure and E-codes were divided into the two surgical groups. Costs (excluding physician costs) of initial hospitalization and readmission for colostomy closure were calculated. Statistical analyses were performed using chi-square and Wilcoxon tests for: number of colon injuries; co-existing intra-abdominal injuries; and complications. Cost estimates, adjusted for medical inflation and cost-to-charge ratios, are reported in 1999 US \$. **RESULTS:** Of the 597 patients identified, 489 (83%) had a PR. The mean initial length-of-stay was longer for the colostomy group (13.5 versus 10.4 days). The mean total cost of the initial stay was \$32,800 and \$46,100 for the PR and DC groups, respectively. Colostomy patients were referred for home health care (HHC) four times more often. The mean readmission cost for colostomy closure was \$15,400, resulting in a combined mean hospital cost of \$61,500 for the DC group. No significant statistical differences in number of colon injuries, other intra-abdominal injuries or complications were revealed. **CONCLUSIONS:** The cost of managing a colon injury with a colostomy is almost twice as much as one managed with PR. This cost difference estimate is conservative as it does not include physician, HHC, colostomy care or supply costs, which would increase the overall cost of the DC approach. Economic, as well as clinical consequences exist regarding choice of surgical repair.

**PSG5****THE ECONOMIC IMPACT OF THE USE OF PERFLUORO-N-OCTANE DURING RETINAL DETACHMENT SURGERY**Venkataraman KS<sup>1</sup>, Barnes JR<sup>1</sup>, Scott IU<sup>2</sup><sup>1</sup>Alcon Laboratories, Inc., Ft Worth, TX, USA; <sup>2</sup>Bascom Palmer Eye Institute, Miami, FL, USA

Purified perfluoro-n-octane (PFnO) was approved for use as an intraoperative vitreous substitute during retinal detachment surgery in 1996. This new technology is associated with improved surgical outcomes. While PFnO is used increasingly in the hospital setting, usage in ambulatory surgical centers (ASC) is infrequent, likely due to current Medicare reimbursement. Health Care Financing Administration's (HCFA) proposal to lower ASC reimbursement rates based on pre-1996 data threatens to further discourage PFnO use. **OBJECTIVE:** To investigate the economic impact of PFnO during retinal detachment surgery, and to determine whether this impact justifies additional ASC Medicare reimbursement. **METHODS:** An economic model was developed based on retinal detachment surgery success rates published in the literature and 1997 Medicare Part B Extract and Summary System data from HCFA. This model includes a yearly projection from 1998–2002 to estimate HCFA costs over 5 years if PFnO is used. HCFA's recently proposed reimbursement

fee is used to estimate Medicare-related costs to HCFA for retinal detachment repair using PFnO. **RESULTS:** Retinal detachment surgery success rates indicate that PFnO use is associated with 133,175 fewer retinal detachment reoperations required over five years, corresponding to a cost savings exceeding \$268M. A recommended additional reimbursement of \$230.00 per surgery would be associated with a net cost savings to HCFA of \$75.6M over five years. An additional reimbursement of \$320.30 per surgery for PFnO would be budget neutral. **CONCLUSIONS:** PFnO represents a new technology associated with improved surgical outcomes and reduced health care costs. Because current reimbursement policies may discourage the use of PFnO in ASCs, an additional reimbursement of \$230.00 per surgery is recommended when PFnO is used.

**PSG6****COST-MINIMIZATION ANALYSIS OF EPOETIN ALPHA IN THE COMMUNITY HOSPITAL**

Santorello JG

State University of New York at Stony Brook, Stony Brook, NY, USA

The use of epoetin alpha in the community hospital has dramatically improved patient outcomes while at the same time has become the most expensive medication on the hospital formulary. Significant savings can be achieved and patient care improved by the development and implementation of guidelines for the use and distribution of epoetin alpha. **OBJECTIVE:** The goal of this study is to use cost-minimization analysis to find ways the community hospital can reduce the cost of treating patients with epoetin alpha while at the same time develop sound health economic policies which will insure the best possible care for their patients. To develop a multi-disciplinary model of care which will assist the clinical pharmacist in monitoring patients being treated with epoetin alpha. **METHODS:** Data was collected pertaining to the purchase, distribution, use and non-use of epoetin alpha at John T. Mather Memorial Hospital for two one-week periods. Cost-minimization analysis was utilized to find the least expensive method of acquisition, distribution and dispensing of epoetin alpha. **RESULTS:** In the two weeks of the study, 155 doses of epoetin alpha were dispensed to 79 patients at a cost of \$22,631.55. A total of 44 doses were dispensed and not utilized by the patients at a cost of \$9484.80. Of the 79 patients studied, 11% of the patients had hematocrit levels that did not warrant use of epoetin alpha and 45% of the patients showed no indicated need for the drug totaling \$8579.78. **CONCLUSION:** The utilization of pharmacoeconomics and clinical pharmacists in the community hospital will result in the development of health care management policies that will not only provide better patient care, but greater economic benefits as well.