3 (very distressed). We conducted a principal components analysis (PCA) of baseline responses. Overall and subscale scores were computed as average distress scores across relevant symptoms. We assessed internal consistency reliability using Cronbach’s alpha. We assessed reproducibility by evaluating the intraclass correlation coefficient (ICC) between baseline and follow-up scores among patients reporting no change in overall symptom severity (n = 45). We compared mean GSAS scores across subgroups of patients with varying levels of symptom severity at baseline and varying degrees of heartburn relief at follow-up using t-tests.

RESULTS: The mean (sd) age of the 278 patients was 43.6 (11.9) years, and most were female (65%) and Caucasian (77%). The PCA and reliability estimates suggested three subscales: gastrointestinal symptoms (GI), regurgitation and heartburn (RHB), and upper respiratory manifestations (URM). The subscale and overall scores were reliable (Cronbach’s alpha, ICC): GI = 0.81, 0.81; RHB = 0.79, 0.80; URM = 0.73, 0.72; Overall = 0.87, 0.85. Mean baseline overall and subscale scores were at least 10% poorer among patients reporting greater symptom severity (p < 0.01). Patients reporting complete heartburn relief at follow-up reported 13% to 16% greater improvements in overall, GI, and RHB scores than patients who did not experience complete relief (p < 0.001).

CONCLUSIONS: This study confirmed the reliability and validity of the overall GSAS score. Further, researchers may want to consider analyzing the GI, URM, and RHB subscale scores as secondary indicators of symptom distress.

GASTROINTESTINAL DISEASES/DISORDERS—
Health Policy Presentations

USE OF NONSTEROIDAL ANTI-INFLAMMATORY AGENTS IN PATIENTS AT HIGH RISK FOR GASTROINTESTINAL SIDE EFFECTS IN A VETERANS AFFAIRS MEDICAL CENTER
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The risk of significant injury to the gastrointestinal (GI) tract from nonsteroidal anti-inflammatory drugs (NSAIDs) has been well established. The Veterans’ Affairs (VA) implemented treatment criteria for the use of NSAIDs including the new class of drugs, cyclooxygenase–2 (COX-2) inhibitors. These criteria utilize a self-administered Gastrointestinal Risk Assessment Tool (GI Score), developed from the Arthritis, Rheumatism, and Aging Medical Information System (ARAMIS) database, to assess risk. This tool generates a composite score used to predict the 1-year risk level, level 1 (no risk) to level 4 (substantial risk), for the potential of an NSAID-associated GI event.

OBJECTIVES: The purpose of this study was to assess the risk level and the level of implementation of the VA criteria.

METHODS: The GI score was used to assess the patient’s risk level calculated on the basis of data from VA demographic, prescription, hospitalization, clinic visits, and active problem list databases. Current therapy was compared to criteria-based therapy to assess level of implementation.

RESULTS: There were 7,625 NSAID users in the New Mexico VA Healthcare System: 86 previous hospitalized GI event patients, 100 concurrent warfarin therapy patients, 223 corticosteroid therapy patients, and 205 rheumatoid arthritis patients. Thirty-six percent of the VA patients were over the age of 65. The most commonly
prescribed NSAIDs were ibuprofen (47%), naproxen (22%) and etodolac (14%). The calculated risk level indicated that 29% of patients had substantial (4%) or significant (25%) risk for a potential GI event, of which 34% were prescribed criteria-based therapy (salsalate, non-selective NSAID plus proton pump inhibitor (PPI), high-dose famotidine or misoprostol, or COX-2 inhibitor).

CONCLUSIONS: In this study, salsalate, non-selective NSAIDs with PPI, high-dose famotidine or misoprostol, and COX-2 inhibitor are under utilized in patients at high risk for a GI event.

INFECTION—Clinical Outcomes Presentations

**PIN 1**

**THE EFFECT OF ANTIBIOTIC USE ON RETURN VISITS FOR ACUTE RESPIRATORY TRACT INFECTIONS**

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Previous investigation revealed that plan members diagnosed with conditions that usually have a viral etiology receive antibiotics at high rates. Multiple reasons exist for this inappropriate drug use. One possible reason may be that providers, patients, or both believe that using an antibiotic will prevent the onset a more serious condition and thereby prevent a return visit. Identification of the causes of antibiotic use will help design interventions to control the development of antibiotic-resistant microorganisms.

OBJECTIVE: Determine the impact of antibiotic use on return visits for acute respiratory tract infections.

METHODS: This study uses large database analysis (insurance claims data). Inclusion criteria: age less than 65 and continuous enrollment in a non-HMO benefit plan with medical, hospital, and pharmaceutical coverage. Cases were identified as an outpatient service for a common cold, upper respiratory tract infection, or acute bronchitis. Antibiotic use was defined as a prescription filled within seven days of the respiratory tract infection. Patients were followed for an additional 30 days to determine whether they had a subsequent service for a respiratory tract infection or related condition.

RESULTS: There were 173,469 patients who met study criteria, overall 101,446 received antibiotics (58.48%). For those who received an antibiotic, 14,600 (14.39%) returned for a respiratory tract infection within 30 days of their initial diagnosis. Of those not receiving an antibiotic at their first visit (72,023), 12.27% returned for a subsequent respiratory tract infection within 30 days of their initial diagnosis. Although the difference between the groups is statistically significant (p < 0.0001), the magnitude is not clinically significant.

CONCLUSION: The use of antibiotics for acute respiratory tract infections does not affect the rate of return for subsequent visits within 30 days. Communicating this information to providers and patients could help reduce the inappropriate use of antibiotics.

**PIN 2**

**RETROSPECTIVE ANALYSIS OF IMIPENEM/CILASTIN VERSUS PIPRA CILLIN/TAZOBACTAM IN TREATMENT OF INFECTED NEUTROPENIC PATIENTS**

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Serious infections in neutropenic patients may have mortality rates in excess 40%, even when properly treated.

OBJECTIVE: This retrospective database analysis was performed to examine the mortality, length of stay and cost of imipenem/cilastin versus piperacillin/tazobactam in the treatment of seriously infected neutropenic patients.

METHODS: The data were collected from July 1997 to June 1998 at 90 non-government non-specialty acute care hospitals over 100 beds throughout the United States. The data collected at discharge included UB-92, diagnostics, procedures, ICD-9’s, DRG and drug dispensing data. All patients in the analysis were coded for a serious infection, primarily pneumonia (481 to 486.99) or septicemia (038 to 038.9), and neutropenia (284,284.4, 284.9 and 288).

RESULTS: The database analysis identified 16,396 on imipenem/cilastin or piperacillin/tazobactam over 18 years of age. Of those treated with these agents, 2,563 were infected neutropenia patients. The length of stay was not statistically significant between the two groups. Difference in utilization patterns demonstrates the imipenem/cilastin group had a statistically significant (p < 0.05) greater use as a third line (16%) agent and less as a first line agent (61%) than the piperacillin/tazobactam group (10% and 68% respectively). Mortality rates indicated imipenem/cilastin had statistically significant lower mortality rate (17.1%) versus the piperacillin/tazobactam (20.6%) group in the treatment groups. Overall cost was $1,130 lower in the imipenem/cilastin treated group despite the fact the drug cost was $267 higher.

CONCLUSION: In this study population, imipenem/cilastin has a lower mortality rate, a higher drug cost and lower overall treatment cost in infected neutropenic patients when compared to piperacillin/tazobactam.