treatment among occupational injury cases. **METHODS:** An analysis of a state-based Worker's Compensation claims data captured prescription reimbursement information of all injuries that occurred between January 1, 2001 and December 31, 2001. Payment information was followed over a 24-month period following date of injury. A prescription sequence analysis was carried out to estimate treatment incidence rates of potential addiction due to narcotic analgesic use. **RESULTS:** Of the 48,598 occupational injury cases, about 10% (N = 4644) received at least 1 narcotic analgesic (therapeutic class H3A). Average length of therapy was 183 days, with 40% of patients receiving narcotic analgesics for greater than 120 days. The majority of narcotic prescriptions were for hydrocodone (55%). Nine percent of patients received less than four different types of narcotic analgesics. From the prescription sequence analysis, we identified 65 cases who received either methadone or clonidine, medications indicated for addiction treatment or detoxification. The incidence rate of receiving treatment for narcotic withdrawal or detoxification was 14 per 1000 patients on narcotic analgesic therapy (95% CI: 10.6, 17.4). Among patients who received potential detoxification treatment, the median duration from initiation of narcotic analgesic therapy to need for withdrawal or detoxification therapy was 232 days. A Cox Proportional Hazards model identified greater risk of suspected methadone use in oxycontin treated patients compared to other narcotic treated patients ($P < 0.01$). **CONCLUSIONS:** To our knowledge, this is the first study that estimated the incidence rates of suspected addiction treatment due to narcotic analgesics used in the Worker's Compensation population using sequential prescription analysis. The study has implications for developing strategies to manage narcotic analgesic prescribing practices and reduce the risk of addiction among injured workers who are narcotic analgesic users.

PAIN

PAIN—Methods and Concepts

PPN11

DEVELOPMENT OF AN INSTRUMENT TO CAPTURE EASE-OF-CARE OUTCOMES IN PATIENTS TREATED WITH PCA DELIVERY SYSTEMS

Harding G[1], Vallow S[2], Leidy NK[1], Zhang M[3], Olson W[4], Hewitt D[4], Viscusi E[5]

[1]MEDTAP International Inc, Bethesda, MD, USA; [2]Janssen Medical Affairs, L.L.C, Titusville, NJ, Afghanistan; [3]Ortho-McNeil Pharmaceutical Inc, Raritan, NJ, USA; [4]Ortho-McNeil Pharmaceutical Inc; [5]Thomas Jefferson University Department of Anesthesiology

Patient Controlled Analgesia (PCA) is a common method of post-surgical pain management. The extent to which this method is optimal in terms of overall convenience, ease of use, and effectiveness of managing pain from a patient's perspective has not been determined. **OBJECTIVES:** To develop a questionnaire to measure "ease-of-care" outcomes from the perspective of patients who use PCA delivery systems for post-operative pain management. **METHODS:** We conducted qualitative interviews among a convenience sample of 15 patients who had undergone hip or lower abdominal surgery and who received intravenous (IV) PCA for their post-operative pain at Thomas Jefferson University Medical Center during June 2003. A content analysis approach was used to identify domains of relevance and generate an item pool. Content validation of the draft "ease of care" questionnaire was performed by subjects who participated in the initial interviews. Subjects were asked to rate the relevancy of each item on a scale of zero (not at all relevant) to four (highly relevant). Each item was assessed for clarity and relevance, and revised as appropriate. Cognitive debriefing interviews to evaluate patient experiences completing the instrument were conducted with a separate sample of 10 patients from the same institution who completed the questionnaire approximately 36–48 hours post-surgery. **RESULTS:** The final Patient Ease-of-Care Questionnaire consists of 28 items and covers seven aspects associated with acute care pain management systems: control/self-efficacy, device function, mobility, quality of pain control, confidence, knowledge/understanding, and satisfaction. All items are scored on a 6-point Likert scale. **CONCLUSION:** We developed an instrument to capture "ease-of-care" outcomes among patients who use PCA delivery systems for the management of their acute pain. The instrument is currently being used in clinical trials comparing two PCA delivery systems. Psychometric properties of the instrument are currently being evaluated.

PPN12

DEVELOPMENT OF TWO INSTRUMENTS TO CAPTURE EASE-OF-CARE OUTCOMES IN HEALTH-CARE PROVIDERS WHO CARE FOR PATIENTS TREATED WITH PCA DELIVERY SYSTEMS

Harding G[1], Vallow S[2], Leidy NK[1], Zhang M[3], Olson W[3], Hewitt D[3], Polomano R[4]

[1]MEDTAP International Inc, Bethesda, MD, USA; [2]Janssen Medical Affairs, L.L.C; [3]Ortho-McNeil Pharmaceutical, Inc; [4]Pennsylvania State College of Medicine

OBJECTIVES: To develop questionnaires to measure "ease-of-care" outcomes from the perspective of nurses and physical therapists who manage the care of patients treated for acute pain with PCA delivery systems. **METHODS:** We conducted four focus group sessions of 8–12 participants to explore nurses' and physical therapists' experiences with patients using intravenous (IV) PCA during July 2003. A content analysis approach was used to identify general themes and specific issues and concerns associated with "ease of care" using the IV-PCA. Two item pools were generated for the development of two draft questionnaires, one from the perspective of nurses' and the other from physical therapists, to address clinical and practical problems encountered in routine care. Items were selected based on relevance to the underlying concepts, clarity of item, and the overall flow and comprehensiveness of the instruments. Subjects who participated in the focus group sessions also participated in a cognitive debriefing of the draft questionnaires. **RESULTS:** The final Nurse and Physical Therapist Ease-of-Care Questionnaires each consist of 22 items that capture aspects of care delivery associated with acute care pain management systems. All items are scored on a 6-point Likert scale. **CONCLUSION:** We developed two instruments to capture "ease-of-care" outcomes among health-care providers to be used in upcoming studies of alternative PCA delivery systems for the management of post-operative pain. The instruments are currently being used in clinical trials comparing two PCA delivery systems. Results will be used to examine the instruments' psychometric properties.

RESPIRATORY DISEASES/DISORDERS

RESPIRATORY DISEASES/DISORDERS—Clinical Outcomes Studies

PRS1

EVALUATION OF MONOTHERAPY AND COMBINATION ANTIBIOTIC TREATMENT REGIMENS FOR PSEUDOMONAS AERUGINOSA PNEUMONIA

Angalakuditi M, Coley K, Rea R

University of Pittsburgh, Pittsburgh, PA, USA

OBJECTIVES: To describe therapy with a Betalactam antibiotic versus dual therapy with a Betalactam and aminoglycoside treatment regimens in ICU patients with Pseudomonas aeruginosa nosocomial pneumonia and to evaluate treatment outcomes of the two groups. **METHODS:** We retrospectively identified adult patients admitted to a non-transplant ICU between August 1, 1999 and August 1, 2003 with documented Pseudomonas aeruginosa pneumonia. Patients had to receive at least 7 days of therapy with an anti-pseudomonal antibiotic to be included. Data collected included patient, clinical, treatment, and outcome related details. Independent sample t-test, chi-square and multiple regression analysis was used to evaluate the outcomes of the patients according to antibiotic groups. **RESULTS:** A total of 389 patients were identified with Pseudomonas aeruginosa pneumonia. Of these, 208 (53%) were on Betalactam ± fluroquinolones (Group 1) and 181 (47%) were on Betalactam and aminoglycoside ± fluroquinolones (Group 2). The mean age of patients was 63.1 and 55.4 years in Groups 1 & 2 respectively ($p < 0.001$). There was no significant difference in the distribution of gender and race between groups. Group 2 patients had more co-morbidities compared to Group 1. The mean length of antibiotic therapy in Group 1 was 24.77 and Group 2 52. Seventy-nine days ($p < 0.001$) and mean ICU length of stay was 27.6 and 55.2 days in Groups 1 & 2 respectively. The mortality in Group 1 was 51 (24.5%) and in Group 2, it was 65 (35.9%) ($p = 0.014$). **CONCLUSIONS:** The mean length of therapy, ICU length of stay and mortality are significantly lower in monotherapy compared to combination antibiotic treatment group.

RESPIRATORY DISEASES/DISORDERS

RESPIRATORY DISEASES/DISORDERS—Cost Studies

PRS2

COST OF CHRONIC BRONCHITIS (CB) AND CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD) IN FRANCE: THE BRONCHECO STUDY

Huchon G[1], Crochard A[2], Vergnenegre A[3], Lenne X[4], Chidiac C[5], Neukirch F[6], Boucot I[2]

[1]Hopital Hotel-Dieu, Paris, France; [2]GlaxosmithKline, France; [3]Hopital du Cluzeau, France; [4]CRESGE-LABORES, France; [5]Hopital de la Croix Rousse, France; [6]Hopital Bichat, France

OBJECTIVES: To describe the management of CB and COPD at stages 1 to 3 (SPLF classification, 1997) and to assess its cost in France. **METHODS:** In total, 409 CB and COPD patients were enrolled in the Broncheco cohort from November 2000 to October 2003 by 10 hospital chest physicians (HP), 50 private chest physicians (PP) and 63 general practitioners (GP). The cohort was followed for 1 year with data collection every 3 months: socio-demographic data, medical history and disease management (medication, oxygen, medical visits, medical procedures, hospitalisations and transportation). Inpatient costs were evaluated using the French Diagnosis-Related Groups and outpatient costs using the French nomenclature. Costs were expressed in 2003 Euro, according to the French societal perspective. Non-parametric statistical analysis was performed. **RESULTS:** In total, 316 patients were analysed (random drop-out was tested) with a mean age of 65 years, a history of the disease of 8 years, 75% were male and 37% were current smokers. The distribution in stages was: 21.5%, 42.1%, 22.8% and 13.6% respectively in stages 1, 2a, 2b, and 3. The annual cost (both medical and non-medical) was 794€, 1936€, 3938€ and 7706€ respectively for stages 1, 2a, 2b and 3 ($p < 0.001$). The proportion of outpatient care in total cost decreased when stage of disease increased (94%, 70%, 63% and 62% respectively) while the proportion of inpatient care increased (6%, 30%, 37%, 38% respectively). For a same stage of disease, the costs were higher for HP, lower for PP and the lowest for the GP. High correlations between cost and age, length of disease and number of exacerbations were observed: 0.21, 0.23 and 0.49 respectively ($p < 0.001$). **CONCLUSIONS:** These results showed that the cost of COPD was considerably greater in patient with advanced stage of disease. This would suggest the pertinence of early management of disease.

PRS3

PHARMACOECONOMY AND ANTIBIOTIC TREATMENT WITHIN THE SLOVAK REPUBLIC

Tesar T[1], Foltan V, Petrzalka A[1], Banasova K[1]

[1]University Comenianae, Bratislava, Slovak Republic

OBJECTIVES: The aim of this study was to collect comparable and reliable data on the antibiotic consumption in Slovakia during the period 1998–2002. The special interest was paid to the trend of the macrolides usage and the resistance of Str.pyogenes. Antibiotic treatment and the pharmacoeconomic analysis of tonsillitis treatment was evaluated. **METHODS:** For the period 1998–2002, data for the ambulatory and hospital care were collected following the ATC/DDD classification. The results were expressed in the numbers of the packages, finance units (SKK) and Defined Daily Doses per 1000 inhabitants per day (DID). **RESULTS:** The collected data showed very high consumption of the antibiotic in Slovakia. Comparing to the published international data it was one of the highest consumers of antibiotics in Europe. The amount of packages used during the period 1998–2002 has decreasing tendency. Antibiotic usage expressed in DID showed moderate decrease. Consumption of macrolides was increasing during the studied period. Usage of drugs containing erythromycin and roxithromycin showed significant decrease. However, the usage of the drugs containing clarythromycin and azithromycin showed statistically important increase ($p < 0.001$). Different therapeutic procedures were classified by pharmacoeconomical method of the cost-minimization analysis. **CONCLUSIONS:** According to the results of this analysis, the most effective treatment of tonsillitis was phenoxymethylpenicillin 15.30 SKK and penamecillin 18.50 SKK. Usage of these drugs for the treatment is efficient and economically convenient ($p < 0.001$). According to the direct cost analysis, 52.2% of costs used for the treatment of tonsillitis was "wasted". Wrong antibiotics were chosen in case of 58.5% of the patients.

PRS4

COST OF TREATMENT AND REIMBURSEMENT OF HOSPITALIZED COMMUNITY-ACQUIRED PNEUMONIA WITH I.V. MOXIFLOXACIN COMPARED TO STANDARD ANTIBIOTIC TREAMENT IN GERMANY

De Zeeuw J[1], Pfeil T[2], Thate-Waschke IM[3], Ernen C[2], Daniel D[2], Bauer TT[1], Schlosser BM[1], Rychlik R[2]

[1]Bergmannsheil Hospital, University of Bochum, Bochum, Germany; [2]Institute of Empirical Health Economics, Burscheid, Germany; [3]Bayer Vital, Leverkusen, Germany

OBJECTIVES: Inpatient treatment of community-acquired pneumonia (CAP) is generally non-invasive and therefore the financial burden for hospitals is dependent from length-of-stay. A fast recovery of the patients shows the need of rapid acting antibiotic treatment, especially under the German DRG-reimbursement system. This study investigated costs and charges of patients with CAP from the hospitals' perspective. The new gyrase inhibitor moxifloxacin was compared to standard antimicrobial therapy of the participating hospitals. **METHODS:** The