willingness to prescribe long-acting opioids. Two-thirds of the
family physicians were willing to prescribe long-acting opioids
for moderate to severe CNMP. However, attitudinal barriers
exist among those physicians unwilling to prescribe. Educational
interventions should focus on these barriers.

PPN16
PREScribing OF FENTANYL PATCHES TO NON-OPIOID
TOLERANT PATIENTS IN THE MILITARY HEALTH
SYSTEM (MHS)
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OBJECTIVES: As a result of safety concerns, labeling for fen-
tanyl patches was strengthened in June 2005 to limit use to
opioid-tolerant patients only. We evaluated prior opioid use in
MHS patients prescribed fentanyl patches to support the DoD
Pharmacy & Therapeutics Committee decision-making process.
METHODS: Study patients included all MHS patients newly
started on fentanyl patch from Jan-Dec 05 (no fentanyl patch
prescription ≤180 days prior to index date). Patients were
assumed to be opioid-tolerant based on prescriptions for a
defined set of opioids considered potentially equipotent to a
starting dose of fentanyl patch (25 mcg/hr) filled during 45–60
days prior to their index date, or if hospitalized on or during
7–14 days prior to their index date (since opioids might have
been started during hospitalization). We did not estimate cumu-
lative dose or duration of opioids. Duration of “look-back”
periods and the defined set of opioids were varied to provide
information on prescribing patterns. Prescription data were
obtained from DoD’s Prescription Data Transaction Service Data
Warehouse, hospitalization data from the MHS Management
Analysis and Reporting Tool. RESULTS: The percentage of
patients that could not be assumed to be opioid-tolerant prior to
starting fentanyl patch ranged from 27% to 51%; it was most
sensitive to changes in how potentially equipotent opioids were
defined. Results from 3-month periods before (January–March
2005) and after (October–December 2005) labeling changes
were similar. CONCLUSION: The number of MHS patients who
are not opioid-tolerant prior to starting fentanyl patches is
potentially large. Assessments of changes in prescribing behav-
ior following educational efforts are underway. DoD decided in
January 2007 to require prior authorization for fentanyl patches,
based on prior opioid use.

PAIN—Patient-Reported Outcomes

PPN17
QUANTIFYING HEALTH RELATED QUALITY OF LIFE IN A
CHRONIC PAIN POPULATION: PRELIMINARY RESULTS
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OBJECTIVES: To assess the sensitivity of the EQ-5D in differen-
tiating between severities of pain related health status (PRHS).
METHODS: Study is being conducted with chronic pain patients
attending a specialty pain centre in Edmonton, Alberta, Canada.
Self reported PRHS was determined using standardized clinical
measures that included the Pain Disability Index and The Facial
Pain Scale. These measures were slightly modified to facilitate
comprehension based on information generated from pilot
testing. Patients were categorized according to their PRHS and
the EQ-5D was administered to quantify their health utility.
Linear regressions were used to compare health utilities between
severity levels of PHS adjusting for gender, marital status, age,
month as a patient, smoking status and income. RESULTS: Sixty-four patients have been assessed. The mean utility was
0.5524 (n = 30) for persons with moderate disability and severe
pain (MDSP), 0.3625 (n = 9) for persons with severe disability
and extreme pain (SDEP), 0.3358 (n = 22) for persons with
severe disability and severe pain (SDSP), and 0.2965 (n = 3) for
persons with moderate disability and extreme pain (MDEP).
Compared to persons with MDSP, persons with SDSP were asso-
ciated with a −0.225 utility decrement (p < 0.001), and persons
with SDEP associated with a −0.240 utility decrement (p = 0.002).
All other comparisons between PRHS levels were non-
significant. CONCLUSION: The EQ-5D may be sensitive in
detecting differences between low and high levels of PRHS but
not within severe levels of PRHS.

PPN18
SYSTEMATIC OVERVIEW OF THE PSYCHOMETRIC
PROPERTIES OF THE BRIEF PAIN INVENTORY IN MALIGNANT
AND NON-MALIGNANT PAIN
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OBJECTIVES: Brief Pain Inventory (BPI) is a self-administered
questionnaire used to assess severity and impact of pain on daily
functions. Developed for use in cancer pain, it is now being
widely used in assessment of both malignant and non-malignant
pain. To date, no published studies exist summarizing BPI’s psy-
chometric properties for both types of pain. The study objective
was to examine the existing evidence of the psychometric prop-
erties of BPI use in patients suffering from either type of pain.
METHODS: A structured literature review was performed to
summarize the psychometric properties of the BPI questionnaire
in both malignant and non-malignant pain. Published papers and
abstracts were retrieved by searching Medline 1983–2006,
SciSearch and pain-related websites. Relevant articles cited from
these search findings were also reviewed. Key search terms
included: Brief Pain Inventory, reliability, responsiveness and
validity. Articles were included for critical review if psychomet-
ric properties were addressed. RESULTS: Of 202 citations, 22
met inclusion criteria for critical review. Factor analysis
was used to establish construct validity, which generated 2-items:
intensity and interference. Only one study reported 3-items
by separating the interference domain by psychological func-
tions/sleep and physical function. Face and content validity were
demonstrated for both types of pain. Studies conducting longi-
dudinal analysis showed BPI scales were sensitive to change and
able to discriminate among groups of patients based on condi-
tion-specific measures of improvement, no change, or a decline.
Intraclass correlation coefficient for test-retest reliability was
found to range from 0.61–0.76 for pain intensity and 0.81–0.88
for pain interference in malignant- pain. Internal consistency
coefficients were approximately 0.85 for the intensity scale and
0.88 for the interference scale with the Cronbach’s alpha coeffi-
cients ranging from 0.77–0.95 for non-malignant pain. CON-
CLUSION: Evidence supports the use of the BPI as a reliable
and valid pain assessment tool in malignant and non-malignant
pain.

PPN19
VALIDATION OF INGUINAL PAIN QUESTIONNAIRE
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OBJECTIVES: Iatrogenic chronic pain is increasingly recognized as a major adverse outcome after inguinal hernia repair. In order to assess chronic post-herniorrhaphy pain, we developed the 18-item Inguinal Pain Questionnaire (IPQ). The aim of the present study was to test its validity and reliability and explore the prevalence of long term pain as determined by the questionnaire in a sample from the population-based Swedish Hernia Register.

METHODS: Validity was tested in 100 patients who received the IPQ and the Brief Pain Inventory (BPI) 1 and 4 weeks after surgery (Group A). The reliability was tested in 100 patients who received the IPQ on two occasions one month apart 3 years after operation (Group B). From the Swedish Hernia Register 2853 operated 2000 were requested to fill in IPQ by mail.

RESULTS: As an indication of construct validity, a significant (p < 0.001) decrease in IPQ-rated pain intensity was observed in the first 4 weeks after surgery. Significant (p < 0.05) correlations with corresponding BPI pain intensity items corroborated the criterion validity. The rate of logical incoherence did not exceed 5.5% for any item. Kappa values in the test-retest one month apart in group B were higher than 0.5 for all but three items, indicating acceptable reliability. Cronbach’s alpha was 0.83 for questions on pain intensity and 0.51 for interference with daily activities. After two reminders, 2456 patients (86%), in the sample from the Hernia Register had responded to the questionnaire. In response to a question about “worst perceived pain last week”, 758 patients (31%) reported pain to some extent. In 144 cases (6%) the pain interfered with daily activities.

CONCLUSION: The validity and reliability is sufficient to make IPQ a useful instrument in the routine assessment of post-herniorrhaphy pain. Disabling pain was found to be a widespread problem 3 years after surgery.

RESPIRATORY DISEASES—Clinical Outcomes Studies

PRS1

BURDEN OF CONCOMITANT ASTHMA AND COPD IN A MEDICAID POPULATION

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OBJECTIVES: Asthma and chronic obstructive pulmonary disease (COPD) present health concerns and an economic burden for patients and managed care plans. This study compares utilization outcomes in patients with COPD, asthma or co-occurring COPD and asthma in a Medicaid population.

METHODS: We queried all medical and pharmacy claims of Medicaid patients with COPD and/or asthma filed between January 1, 2000 and December 31, 2003, from encounter data. COPD patients were identified based on at least one claim with ICD-9 codes 491, 492, 496, and asthma patients on the basis of ICD-9 code 493 as primary, secondary or tertiary diagnosis. We analyzed annual utilization attributable to COPD and/or asthma, and compared utilized utilization of hospitalizations, physician, outpatient and emergency room visits as well as drug prescriptions.

RESULTS: The analysis included a total of 3455 COPD, 3072 asthma and 2604 COPD/asthma patients, and showed statistically significant differences in the use of services. COPD/asthma co-occurring disease has higher utilization of any service type than either disease alone. Compared with asthma, COPD has higher use of hospitalizations (p < 0.0001), and less outpatient services (p < 0.0001) and outpatient-emergency visits (p < 0.0001). Logistic regression results suggest that COPD patients were 16%-51% more likely to use physician visits (OR = 1.16, 95% CI: 1.01–1.34) and inpatient services (OR = 1.51 95% CI: 1.31–1.74) and less likely to use out-patient services (OR = 0.40 95% CI: 0.35–0.46). COPD and asthma co-occurring patients had higher utilization of all services compared with asthma patients. CONCLUSION: Our data suggest that COPD and COPD/asthma co-occurring patients were sicker and used more medical services than asthma patients.

RESPIRATORY DISEASES—Cost Studies

PRS3

DIRECT AND INCREMENTAL COSTS OF ACUTE RESPIRATORY INFECTIONS BY INITIATING ANTIBIOTIC

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OBJECTIVES: The costs of respiratory tract infections are considerable. The purpose of this study was to estimate the direct