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**OBJECTIVES:** To compare observational data with a large clinical study (MUCOSA) which showed that misoprostol reduced NSAID complication rates by 40% in patients with arthritis. To measure the cost of prescribing, endoscopy and hospitalizations for patients receiving nonsteroidal anti-inflammatory drugs (NSAIDs) and estimate the cost-effectiveness of misoprostol in routine practice.
**METHODS:** A cohort study using all patients in the Tayside region that received NSAIDs and anti-ulcer drugs between 1989 and 1995. Thirty-day treatment was estimated from the cost of the NSAID plus endoscopies plus hospitalization for GI events. Costs of hospitalizations and endoscopic procedures were obtained from Scottish Information and Statistics Division for 1997.
**RESULTS:** Among 54,807 eligible patients the risk adjusted rates of hospitalization for gastrointestinal diagnoses were 50% lower on Arthrotec (a fixed combination of misoprostol and diclofenac) than on diclofenac alone. Statistically significant risk factors were: a prior history of gastrointestinal events ($p < 0.001$), a prior history of cardiovascular events ($p < 0.001$), increasing age ($p < 0.001$), social deprivation score ($p = 0.072$), concurrent exposure to anti-ulcer drugs ($p < 0.001$) or steroids ($p = 0.001$) and type and dose of NSAID ($p < 0.001$ and $p = 0.047$ respectively). Only nabumatone had a lower event rate than Arthrotec, but at a higher expected cost. Arthrotec had lower 30 day treatment and complication costs than diclofenac alone in high risk patients (e.g., £52 *vs* £86 for a patient aged 80–89 with a prior history of GI events) but not in low risk patients (e.g., £16.50 *vs* £15 for a patient aged 50–59 with no prior GI events).
**CONCLUSIONS:** There was close agreement between this observational study and the MUCOSA study on the extent to which the prophylactic use of misoprostol reduced NSAID associated gastrointestinal complications. The combination of misoprostol with diclofenac should reduce thirty day treatment and complication costs in high risk patients, in comparison with diclofenac alone.

**GI2**

## COST-EFFECTIVENESS ANALYSIS OF HIGH DOSE IV OMEPRAZOLE INFUSION AS ADJUVANT THERAPY TO ENDOSCOPIC HAEMOSTASIS FOR BLEEDING PEPTIC ULCERS

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**OBJECTIVES:** To investigate the cost-effectiveness of high dose IV omeprazole as an adjuvant therapy to endoscopic hemostasis for prevention of early ulcer rebleeding from a hospital perspective. A randomized, placebo-controlled clinical trial was conducted previously in a local hospital to study the effects of high dose IV omeprazole infusion on patient outcomes after endoscopic ulcer hemostasis. Although the interim data suggested that IV omeprazole significantly decreased the rate of early rebleeding that occurred 72 hours after therapy, the cost implication of this therapy has not been examined.
**METHODS:** The data of 157 patients who completed the above study was analyzed. The percentages of patients who experienced early rebleeding were obtained from medical records. The health care resources consumed by each patient during the first 72 hours post endoscopic hemostasis were also retrieved from their records and studied.
**RESULTS:** Four of 80 (5%) patients in the omeprazole group and 17 of 77 (22%) patients from the placebo group had rebleeding within 72 hrs after endoscopy and required further treatment. The treatment cost within 72 hours post endoscopy of the IV omeprazole group was lower than that of the placebo group (HK$1312 per patient vs. $3223 per patient, 1 US = 7.8 HK). The cost-effectiveness ratios for the omeprazole group and placebo group were $9,946 and $12,821, respectively, per early rebleeding episode prevented.
**CONCLUSIONS:** High dose omeprazole is more cost-effective in preventing early ulcer rebleeding than placebo after endoscopic hemostasis.

**GI3**

## EVALUATION OF PHARMACISTS' INTERVENTIONS ON PRESCRIBING ERRORS OF NONSTEROIDAL ANTI-INFLAMMATORY DRUGS: COSTS SAVINGS AND CLINICAL EFFECTS

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**OBJECTIVES:** To determine the economical and clinical impact of pharmacists' interventions in ambulatory care within the context of a prescribing error of Nonsteroidal Anti-Inflammatory Drugs (NSAIDs).
**METHOD:** A national survey was carried out in 900 town pharmacies during 12 weeks to record all prescriptions with an anomaly like contraindication, interaction which could be dangerous for the patient. We used a decision analysis to compare two strategies, with or without a systematic pharmacist's intervention before a prescription of NSAIDs. The outcome was upper gastrointestinal side effects of NSAID therapy (peptic ulcer and complications) and we used a prescribing errors rate varying between 0,5% to 2% to estimate the costs savings and to measure the occurrence of peptic ulcer avoided. Computer simulation was performed with Tree Age 3.0.
**RESULTS:** 446 cases of NSAIDs prescription errors were notified including combination of NSAIDs, NSAIDs overdose and NSAIDs prescription with risk factors like peptic

ulcer history or age >65. Study gave an estimation of 49.390 prescriptions involving NSAIDs prescription at risk of upper gastrointestinal side effects in France for one year. The pharmacist's intervention before a NSAID prescription with an error lead to save 1.037.190 FF (158.119 Euros) to 3.951.200 FF (602.356 Euros) per year for the Social Security and lead to avoid 58 to 232 peptic ulcers per year (30 to 120 complicated ulcers).
**CONCLUSION:** This study confirmed that pharmacist intervention is cost saving and has a clinical impact as regard prescribing errors. Moreover this effect may be larger as long as we only took into account the upper gastrointestinal NSAIDs side effects.

**GI4**

## PREDICTORS OF SAMPLE INCLUSION FOLLOWING THE APPLICATION OF CONTINUOUS ELIGIBILITY REQUIREMENTS IN SUBJECTS RECEIVING COLONOSCOPIES

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**OBJECTIVES:** To investigate the predictors of sample inclusion following the application of continuous eligibility requirements for subjects receiving colonoscopies.
**METHODS:** All subjects with a colonoscopy (CPT = 45355–45385) in PharMetrics' Integrated Outcomes Database between January 1, 1997 and June 30, 1997; who did not have a prior colonoscopy were eligible for the study. For each subject, the date of his or her first colonoscopy during the study period was identified. Subjects were then classified as In-Sample if they had data available for analysis 6 months prior to and following the index colonoscopy date. Conversely, subjects without data available for analysis 6 months prior to and following the index date were considered Out-of-Sample. Subjects tumor types were classified as benign (ICD-9-CM = 211.3, 211.4,569.0), malignant (ICD-9-CM = 154,153) or no-polyps (absence of any of the tumor codes). Chronic comorbidities and gastrointestinal complications were identified via the presence of ICD-9-CM codes. For each subject, the number of chronic conditions identified during the study period was counted. To determine the effect of subject characteristics on sample inclusion, sample membership was modeled using logistic regression.
**RESULTS:** 6958 subjects met the inclusion criteria, of which 58.28% were classified as In-Sample. Increasing age, female gender and increasing number of comorbidities were significantly associated with a greater likelihood of sample inclusion. Benign tumors increased the likelihood of sample inclusion (OR = 1.17; 95% CI: 1.04–1.32), but malignant tumors were not significantly associated with sample inclusion (OR = 1.14; 95% CI: 0.95–1.39).
**CONCLUSIONS:** Continuous eligibility requirements tend to favor the inclusion of older subjects, subjects with more comorbid conditions, and females. Subjects with benign tumors, but not malignant tumors, are more likely to remain in sample than those with no-polyps following the application of continuous eligibility requirements.

# ECONOMIC ANALYSIS OF SERVICE DELIVERY

**SD1**

## USING CONJOINT ANALYSIS TO ASSESS WOMEN'S PREFERENCES FOR MATERNITY CARE SERVICES DURING THE INTRAPARTUM STAGE

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**OBJECTIVES:** To estimate the relative value attached to several main characteristics associated with the process of maternity care during the intrapartum stage for women who have chosen to deliver at home compared with women who have chosen to deliver in hospital.
**METHODS:** The attributes included in the exercise were continuity of care, the location for delivery, the level of pain relief available, the locus of control for decision-making and the probability of being transferred to another location during labor. The attributes and their associated levels were chosen as a consequence of a literature review and several focus groups held with women who had recently delivered either at home or in hospital. A self-completion questionnaire using the conjoint analysis technique was developed and administered to two samples. The first sample comprised 250 women who had delivered in hospital within the preceding 12 months and who were clinically defined as low risk prior to their delivery. The second sample comprised 180 women who had delivered at home within the preceding 12 months.
**RESULTS:** Response rates of 52% and 63% were achieved for the hospital and home birth groups respectively. For the hospital birth group, statistically significant attributes affecting preferences were the level of continuity of care experienced ($p < 0.001$) and the likelihood of transfer during labor ($p = 0.012$), with higher continuity of care and a lower likelihood of transfer being preferred. For the home birth group, statistically significant attributes included location of care ($p < 0.001$), pain relief ($p = 0.033$) and the likelihood of transfer during labor ($p = 0.028$) with a home location, more natural methods of pain relief and a lower likelihood of transfer being preferred.
**CONCLUSIONS:** If, as suggested by recent evidence, it is the case that there are no differences in the clinical outcomes between home and hospital birth for low risk women, then traditional measures used in health economics (e.g., quality adjusted life years or QALYs) would detect no difference between the alternative modes of delivery. However, the results of this study suggests that aspects associated with the process of maternity care are also important and these preferences differ considerably for