OBJECTIVES: To determine the rate of return to work post-MI; and for returnees, self-reported work performance and number of days absent. **METHODS:** Patients admitted to the University of Michigan Medical Center with diagnosis of MI were identified consecutively and prospectively from October 1999 to May 2000. Clinical data were obtained retrospectively from medical records. Six months after discharge, patients were interviewed by telephone to determine work status prior to and after MI. Work-related outcomes included self-reported work performance using the Work Performance Scale (WP, 1 = lowest, 4 = highest performance) and number of days absent. The SF-12 was administered to determine physical (PCS-12) and mental (MCS-12) functional status. **RESULTS:** Of 202 patients interviewed, 30.2% worked prior to the reference MI. Of these, 80.3% were male, mean age was 56.1 years, and 26.2% did not return to work. Those not returning had lower median PCS-12 scores (28.5 versus 42.8 for returnees, $p < 0.001$), prior MI (62.5% versus 17.8% for returnees, $p = 0.003$), and history of congestive heart failure (25.0% versus 4.4% for returnees, $p = 0.03$). Returnees had a median WP of 3.6, and 82.2% indicated no absences. Median WP scores were lower for patients with lower ejection fractions (EF) (3.2 for EF $< 40\%$ versus 3.8 for EF^3 $> 40\%$, $p = 0.01$), hypertension (3.5 versus 3.8 without hypertension, $p = 0.02$), or prior MI (3.3 versus 3.8 without previous MI, $p = 0.01$). Workers reporting absences had lower EF (40% EF $< 40\%$ versus 11.4% EF $< 40\%$ for no absences, $p = 0.05$), lower median PCS-12 score (31.1 versus 44.5 for no absences, $p = 0.02$), and prior MI (50.0% versus 10.8% if no absences, $p = 0.02$). **CONCLUSIONS:** Preexisting cardiac disease, lower EF at discharge, and poorer physical functioning were negatively related to work-related outcomes. This small study demonstrates the need for a larger, broader study that includes, health beliefs, psychosocial assessment, treatment, and other job/patient factors that may influence work-related outcomes.

DIABETES/GASTROINTESTINAL DISORDERS

DG1

THE RELATIONSHIP OF DIABETES SYMPTOMS AND HEALTH-RELATED QUALITY OF LIFE

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OBJECTIVES: To determine the relationship between diabetes symptom burden and patients' perceptions of health-related quality of life (HRQL). **METHODS:** A questionnaire was sent to 3,716 adults with diabetes enrolled in a managed care organization in West Virginia and southeastern Ohio. Diabetes symptom burden was measured using a 17-item scale (Diabetes TyPE, Form 2.1). The Health Status Questionaire (HSQ-12), Version 3.0 was utilized to measure patients' perception of their HRQL. Analyses focused on six domains from the HSQ-12: General Health Perception (GHP), Physical Functioning (PF), Bodily Pain (BP), Energy/Fatigue (EF), Social Functioning (SF), and Mental Health (MH). Linear regression was used to examine the impact of diabetes symptoms on each of the HRQL domains. **RESULTS:** Usable responses were obtained from 1,027 persons with diabetes (27.6% response rate). The summated scale of diabetes symptom burden had acceptable internal consistency (alpha = 0.90). Analyses revealed a significant inverse relationship between diabetes symptom burden and each of the six domains from the HSQ-12, when controlling for gender, age, and education. Overall symptom burden was found to be most highly associated with Social Functioning ($r = -.57$), while somewhat less strongly associated with the other five domains: GHP ($r = -.52$); PF ($r = -.49$); BP ($r = -.51$); EF ($r = -.54$); MH ($r = -.50$). As overall symptom burden increases, the patients' perception of health across all six HRQL domains decreases. **CONCLUSIONS:** Diabetes symptom burden is inversely related to health-related quality of life. Thus, interventions targeted towards the alleviation of diabetes symptoms should also lead to improvements in patients' perceptions of their health and well-being.

DG2

THE INCREMENTAL COST OF DIABETES IN CHRONIC ILLNESS CO-OCCURRENCES

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OBJECTIVES: The cost and management of patients with multiple chronic conditions present unique challenges to the health care system. Major chronic conditions such as diabetes often co-occur with other chronic illnesses. The objective of this study is to report the incremental cost of diabetes mellitus when it co-occurs with cardiovascular conditions, depression, hypertension, psychosis, respiratory/asthma, or acid peptic disease. **METHODS:** A one-year retrospective database analysis using an integrated Medicaid dataset from the State of Oklahoma. Disease states were identified by ICD-9-CM codes and a validated drug-based classification. Patients included in the study had the chronic condition identified by both drug and diagnosis information. The incremental costs of diabetes when co-occurring with other chronic conditions was determined by subtracting the cost of the non-diabetes single condition from the co-occurring disease group. **RESULTS:** Seven groups of patients consisted of; diabetes only (n = 1038), diabetes co-occurring with hypertension (n = 313), respiratory illness/asthma (n = 62), depression (n = 48), cardiovascular illness (n = 35), psychosis (n = 35), and acid peptic disease (n = 30). Diabetes as a single chronic illness had an annual cost of $818 over patients with no evidence of chronic illness. The incremental cost of diabetes when co-occurring with psychosis was $7,211, respiratory illness/asthma $3,161, hypertension $1,595, depression $1,319, acid peptic disease

$977, and cardiovascular illness $−35. The incremental cost of diabetes co-occurring with psychosis was significantly higher than all other disease co-occurrences. Differences in the incremental cost of diabetes were not statistically significant between the other disease combinations. ANCOVA was performed with longevity in the program as a covariate to adjust for differential enrollment time. **CONCLUSION:** The cost and management of chronic conditions such as diabetes may be highly influenced by other chronic conditions the patient may have. Disease management programs may incorporate co-morbidity research and models when evaluating the cost and treatment of chronic conditions.

DG3

A RETROSPECTIVE EVALUATION OF NONSTEROIDAL ANTI-INFLAMMATORY DRUG-INDUCED GASTROINTESTINAL COMPLICATIONS AMONG ADULTS IN A MANAGED CARE HEALTH PLAN

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OBJECTIVE: To obtain a profile of adult patients at risk for nonsteroidal anti-inflammatory drug (NSAID) induced gastrointestinal (GI) complications in a large managed care health plan in the Southwest United States. **METHODS:** Patients with NSAID prescription claims between July 1996 and June 1997 were identified from a health plan claims database. Patients with claims associated with ICD-9 and CPT codes indicating serious GI complications were then identified. The ICD-9 codes used were those associated with GI ulcers (531.x, 532.x, 533.x, and 534). A total of 19 CPT codes for GI procedures indicative of a GI complication were used. A forward stepwise logistic regression analysis, using the likelihood-ratio (LR) test, was performed to identify predictors of GI complications. Predictors included in the model were individual NSAIDs and the following potential risk factors: age, gender, previous GI drug usage, previous steroid usage, and total days supply of NSAIDs during the study period. **RESULTS:** A sample of 15,772 patients with prescription claims for NSAIDs was identified. Of these patients, 213 (1.4%) had an ICD-9 or CPT code suggestive of serious GI complications secondary to a NSAID. The logistic regression results indicated that women (OR = 0.65, 95% CI = 0.48–0.87) were less likely to develop GI complications. However, patients with previous GI drug usage (OR = 5.97, 95% CI = 4.51–7.90), those who used ketorolac (OR = 2.01, 95% CI = 1.10–3.67) and those who used oxaprozin (OR = 1.82, 95% CI = 1.10–3.00) were more likely to develop GI complications. **CONCLUSION:** Users of ketorolac and oxaprozin, as well as those with previous GI drug usage were at a higher risk, while women were at a lower risk of GI complications in this managed care population.

DG4

DISEASE SEVERITY DETERMINES COST OF GASTROESOPHAGEAL REFLUX DISEASE IN A MIDWEST USA HEALTH CARE PLAN

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OBJECTIVES: The primary objective was to describe the cost of illness of gastroesophageal reflux disease (GERD) in a managed care population. Secondary objectives were to characterize GERD costs and to quantify the dependence of costs on disease severity. **METHODS:** This retrospective study utilized claims data from a large (1.4 million lives) Midwest USA health care plan. Study population had complete medical and pharmacy coverage continuously from 1996 to 1998 and possessed at least one medical claim for GERD. Claim costs were compiled for all GERD-attributable medical and drug claims. Costs were also categorized by health care sector, such as hospital inpatient or pharmacy. ICD-9 codes were used to categorize subjects' GERD into four progressively worse states plus a non-symptomatic state: GERD0 {no GERD claims}, GERD1 {mild esophagitis}, GERD2 {reflux esophagitis}, GERD3 {esophageal ulceration}, and GERD4 {strictures and complications}. **RESULTS:** A total of 7575 subjects meeting the inclusion and exclusion criteria were identified. The median age was 50 and there were 50% females. Over the three year study period, more than $23 million was spent on GERD-related claims, or $86 per subject per month. Pharmacotherapy contributed 31% of GERD health care costs, inpatient hospital charges 37%, outpatient facility charges 26%, and doctor office charges 6%. Mean cost per month was highly dependent on GERD disease state: GERD0 cost $38 per month, GERD1 was $189, GERD2 was $232, GERD3 was $536, and GERD4 was $412. At higher GERD states, pharmacotherapy was a lower contributor to cost. **CONCLUSIONS:** For payers of health care, GERD is an expensive disorder to manage. Overall costs associated with GERD increase with the severity of the disease, although the relative contribution of each health care cost sector changes with disease severity.

INFECTIOUS DISEASE

ID1

DEVELOPMENT OF A STOCHASTIC DECISION ANALYSIS MODEL OF TREATMENT OF PYELONEPHRITIS FROM THE RESULTS OF AN RCT

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OBJECTIVE: To model the relationship between resistance to trimethoprim sulphamethoxazole (TMP-SXT)