the disease is 120 million with over a third of those affected having severe chronic disease. We attempted to estimate the actual disease burden in three countries, with varying levels of disease prevalence, so that the impact of LF in these countries can be better understood. METHODS: We constructed an economic model of work lost due to LF in three countries where it is prevalent (India, Ghana, and Thailand). Data sources included published studies on productivity among individuals who experience LFs debilitating manifestations in the form of acute adenolymphangitis [ADL] or chills and fevers often with swelling of the affected limb and associated lymph node inflammation] and chronic lymphatic obstruction (which can lead to hydrocele and elephantiasis). Wages used for our calculations were the minimum agricultural wages obtained from the International Labor Organization and converted to 2005 US$. The time horizon used was one year. RESULTS: The estimated period prevalence of chronic lymphatic obstruction secondary to LF among people between the ages of 15–65 years in India, Ghana and Thailand was estimated at approximately 77,779; 836; 1,917,923; and 549,733 respectively. Wages lost attributable to lymphatic obstruction were estimated to be $4.5 billion; $261 million; and $174 billion respectively. Additional annual wages lost attributable to ADL are approximately $22 million; $1 million; and $85,150 in these countries respectively. CONCLUSION: The model demonstrated that LF results in significant and costly work impairments. As one of only six global diseases that meet the criteria for being eradicable, our research on the economic impact of LF suggests that policymakers should make investments in initiatives aimed at preventing and treating this disease.

CS3
THE EFFECT OF ORGAN THREATENING AND MENTAL HEALTH CO-MORBIDITIES ON MEDICAL COSTS IN SYSTEMIC LUPUS ERYSITEMATOSUS
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OBJECTIVE: To determine the prevalence of organ-threatening and mental health co-morbidities and examine their effects on total medical costs in systemic lupus erythematosus (SLE) patients. METHODS: A total of 2395 California Medicaid patients with a diagnosis of SLE were included in this retrospective analysis. Diagnosis of mental co-morbidities (depression, anxiety, and fatigue) was based on ICD-9 codes from the claims record as was the presence of organ involvement (heart, lung, kidney, liver, and serious blood involvement). The analyses were conducted from an insurer’s perspective; payments were used as a proxy measure for costs. Total medical costs included inpatient costs, ambulatory and outpatient costs, prescription costs, and nursing facility/intermediate care facility costs. Descriptive analysis was performed to determine the prevalence of these co-morbidities. The effect of mental and organ-threatening co-morbidities on total medical costs of SLE patients was modeled using a mixed regression estimation controlling for age, gender, ethnicity, and eligibility in both Medicaid and Medicare. RESULTS: The incidence rates for depression, anxiety, and fatigue were 14.7%, 8.2%, and 15.8%, respectively. About 37% of the patients have at least one affected organ. Pulmonary manifestation was the most common organ involvement, occurring in 20.4% of the SLE patients. About 11% of the patients had kidney involvement while 18% had heart involvement. Higher incidence rates of fatigue was observed in patients with organ-threatening SLE (21.6% vs. 12.5%, p < 0.01). Organ-involvement results in an average increase of $1144 per month in total medical costs (p < 0.01). Among the three mental co-morbidities, fatigue is significantly associated with increased total costs of $536 (p < 0.0001). The ethnicity influence on total medical costs dissipates with the inclusion of organ-threatening co-morbidities and fatigue. CONCLUSIONS: Both mental health and organ involvement co-morbidities are significant predictors of medical costs of treating SLE.

CS4
FREQUENCY AND COST OF DISABILITY AMONG EMPLOYED INDIVIDUALS WITH CHRONIC OBSTRUCTIVE PULMONARY DISEASE (COPD)
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OBJECTIVES: Examine frequency and costs of disability among employed individuals with COPD. METHODS: Retrospective analysis of disability and medical claims data for employees of nine national self-insured companies. Active employees 40–63 years old with diagnosis of COPD (ICD-9-CM: 491.xx, 492.x,496) between January 1, 2001–December 31, 2003 were identified. Index date was later of: 1) first COPD diagnosis, or 2) first date of eligibility for short-term disability (STD), long-term disability (LTD), and health benefits. Employees with cystic fibrosis, lung cancer, tuberculosis, or pregnancy, and those continuously eligible for <90 days following index date, were excluded. Using propensity score matching, controls were matched 2:1 to COPD subjects on age, gender, geographic region, employer, length of employment, and salary range. Subjects were followed until the earliest of non-active employee status, disenrollment from any benefit, 365 days of follow-up, or March 31, 2004. Likelihood of disability was compared between COPD subjects and controls using logistic regression, adjusting for length of follow-up and specific comorbidities. Indirect costs of disability, measured as disability days multiplied by subjects’ daily wage, were compared among subjects with a disability claim using GLM with a gamma distribution and log link, adjusting by the aforementioned covariates. RESULTS: Mean length of follow-up for COPD subjects (n = 1349) and controls (n = 2696) was 220 and 233 days. Mean age was 52 years, and cohorts approximately 50% male. All comorbidities were more common in the COPD cohort. A greater proportion of COPD subjects used STD (21.8% vs. 7.0%), LTD (2.4% vs. 0.4%), or any disability benefit (22.8% vs. 7.3%). Odds ratios for likelihood of disability for COPD subjects were: STD, 2.11 (95% CI: 1.64–2.71); LTD, 4.21 (1.93–9.16); any disability, 2.15 (1.68–2.75). CONCLUSIONS: Among those with disability (307 COPD patients, 197 controls), indirect costs were higher among COPD subjects ($8559) than controls ($5443); this approached significance (p = 0.07).

HEALTH CARE USE & POLICY
HP1
RECENT POLICY INITIATIVES IN THE AUSTRALIAN NATIONAL REIMBURSEMENT SYSTEM THAT HAVE REDUCED COST DRAMATICALLY
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OBJECTIVES: The Australian national reimbursement system has tended to evolve independently from other health care funding environments. Over the past few years, a range of policy initiatives has been introduced. Many of these have been aimed directly at restricting the growth in drug expenditures. METHODS: This study examines the range of initiatives and estimates the savings that each has produced. The authors have built a large relational database that captures all pricing, utili-
sation and committee decisions. These data were analysed to determine the impact of the policy measures. Policy changes included increased patient co-payments, mandatory 12.5% price cut with generic entry, a weighted average monthly treatment cost price adjustment mechanism. The Pharmaceutical Benefits Advisory Committee controls recommendations to government concerning the funding of new drugs. RESULTS: The level of acceptance of new drugs that are submitted on a cost-effectiveness basis has fallen to approximately 20%. The impact of patient co-payment on reducing the volume of units sold nationally was estimated to be 5–10%. The effect of price reduction initiatives in 2005 on Pharmaceutical Benefits Scheme expenditure was estimated at 3–4% of total spending. CONCLUSIONS: These initiatives have been very effective in restricting national drug expenditures growth. For most of the 1990s and into this decade, total expenditure has grown more than 10% per annum. By the end of 2005 this had fallen to well below 5%.

THE IMPACT OF BARIATRIC SURGERY ON HEALTH OUTCOMES AND PHARMACOLOGICAL TREATMENT AMONG OBESE PATIENTS IN AN EMPLOYED POPULATION
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OBJECTIVE: To identify the impact and persistence of bariatric surgery on health outcomes and pharmacological treatments among obese patients. METHODS: A comprehensive analysis of 4322 patients with a diagnostic of obesity (ICD-9-CM = 278) and a CPT code of bariatric surgery (43,842, 43,843, 43,846, 43,847, S2085) was conducted using US administrative claims data covering 5.0 million lives. The 30 most frequent 3 digit ICD-9-CM codes prior to surgery were analyzed along with corresponding pharmacological treatments. Diagnostics and pharmacological treatment were then compared in the 90 days preceding the surgery and eight 90 day post-surgery periods (days 30–120 to days 660–750). Frequency counts pre- and post surgery were performed using 3 digit ICD-9-CM codes for diagnostics and AHFS (American Hospital Formulary Service) therapeutic classes and compared using chi-squared tests.
RESULTs: Cardiovascular disease, diabetes, respiratory disease (and asthma in particular), joint and muscle disease, and psychiatric disorders prevalence fell monotonically over the two year period observed (mean age = 43.2, 16.4% male). Two years following surgery, cardiovascular disease prevalence decreased from 40.4% to 5.7%), diabetes mellitus from 18.6% to 3.1%, respiratory disease from 45.0% to 3.2% with asthma dropping from 6.7% to under 1%, diseases of the joints and muscles from 24.7% to 7.4%, and psychiatric disorders from 12.1% to 3.7%. Anemia diagnoses increased from 4.1% to 8.9% after 210 days, but decreased back to 3.6% after 750 days. Treatment frequency with insulin and oral antiabetic drugs decreased from 4.4% to 0.3% and from 16.0% to 1.8%, respectively. Treatment frequency for cardiovascular diseases (Ace inhibitors, calcium channel blockers, diuretics, beta-blockers, and other hypotensives) fell from 42.1% to 10.1%. Hypolipidemic use also dropped from 12.6% to 1.9%. All differences between pre- and post surgery proportions are statistically significant (P = 0.05). CONCLUSION: Bariatric surgery is associated with significant improvements in health outcomes and reduced pharmacological utilization for major disease categories.

DETERMINANTS OF GENERIC ENTRY IN LAST DECADE
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OBJECTIVES: This study examines the factors that influence generic entry upon patent expiration of branded drugs, specifically focusing on the drug’s profitability as a generic firm’s incentive to enter as well as additional patents filing as a strategic entry barrier tool by patent holders. METHODS: For 138 drugs (approved through NDA process between 1970 and 1990) whose initial patent expired over the period 1994–2003, the expiration dates of all related patents listed and their generic version’s approval dates (if generic entry happened) were obtained from the FDA. At different follow-up time point—6, 12, 18, and 24 months after the initial patent expiration, probit analyses of the likelihood of generic entry were done to identify the determinants of the entry. Additionally, we examined the relationship between total number of patents listed and the drug’s profitability using negative binomial regression analysis to investigate whether patent holders filed more patents for future top-selling products. RESULTS: Top-selling drugs as well as the drugs for geriatric care were more likely to attract generic entry at every time point (Relative Risk (RR) for top-selling drugs = 33.84, 6.76, 6.04, and 3.90; RR for geriatric drug = 3.97, 2.35, 1.82, and 1.43 respectively). The likelihood of generic entry increased as the initial patent expiration year increased (p < 0.05). Generic competition was less likely to occur under the presence of any unexpired additional patent(s) at each time point (RR = 0.13, 0.33, 0.30 and 0.32). Top-selling drugs had more patents compared to non-top-selling drugs (p < 0.000). CONCLUSIONS: Delay in generic competition was associated with patent holder’s intention to extend patented period by filing more patents. The generic industry has targeted top-selling products and future-growing market as the population ages. Generic competition increased under “favoring generics policy” and “cost containment efforts” in last decade.

PRESCRIPTION DRUG INSURANCE AND ITS EFFECT ON UTILIZATION AND HEALTH OF THE ELDERLY
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OBJECTIVE: Approximately 30% of elderly do not have prescription drug coverage. To remedy this problem, the Medicare Modernization Act was recently passed. Surprisingly, little is known about how drug coverage will affect health. The goal of this paper is to obtain estimates of “causal effects” of prescription drug coverage on drug use, inpatient visits and health of the elderly. METHODS: The primary data source used in the analyses is the Medicare Current Beneficiary Survey (MCBS), Cost and Use file from Centers for Medicare and Medicaid Services (CMS) for years 1992–2000. Two empirical approaches were used to account for non random sorting into drug coverage: fixed-effects and instrumental variables (IV). The Fixed-effect approach uses longitudinal data and controls for unmeasured person-specific effects that may confound the relationships of interest. IV uses arguably exogenous variation in prescription drug coverage to obtain estimates of the relationships of interest. RESULTS: Between 1992–2000 approximately 25% of the elderly in the sample gained some level of prescription drug coverage. Estimates showed that after accounting for the non-random nature of prescription drug coverage, drug coverage, particularly public coverage, significantly increased the utilization of prescription drugs (~13% higher utilization), but has no significant discernable effect on the use inpatient visits or health, as measured by...