hence more time for follow-up and therapy adjustment, and physicians who face drug reimbursement constraints.

MGB2

THE UTILIZATION AND COSTS OF PRESCRIPTION DRUGS IN A TEXAS MEDICAID MANAGED CARE PILOT PROGRAM

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The state of Texas established a Medicaid Managed Care Pilot Program in Bexar County on September 1, 1996 for clients previously in a Fee-For-Service (FFS) plan. Clients selected either a health maintenance organization (HMO) or a "gatekeeper" physician through a primary care case management (PCCM) plan.

OBJECTIVE: This study evaluated the changes in prescription utilization and costs when FFS clients entered into either an HMO or PCCM health care delivery model.

METHODS: Prescription drug claims were analyzed for Aid to Families with Dependent Children (AFDC) clients eligible for both a pre-implementation period (December 1, 1995–May 31, 1996) and a post-implementation period (December 1, 1996–May 31, 1997). A total of 59,377 HMO clients and 67,451 PCCM clients were studied. Three control sites were selected consisting of Medicaid clients in FFS, HMO, and PCCM plans for both study periods in other geographical locations across the state. Changes in the utilization and costs of prescriptions per month were measured for each client between the pre- and post-implementation periods.

RESULTS: One-way analysis of variance showed that the mean change in monthly prescription costs per client was highest between periods for clients in the PCCM experimental group ($4.61, s.d. = $44.63), followed by HMO clients in the experimental group ($2.10, s.d. = $26.21). These cost increases were significantly higher than those in the HMO ($0.68, s.d. = $34.91), PCCM ($1.44, s.d. = $42.40), and FFS ($1.05, s.d. = 21.86) control groups ($p < 0.001$). The percent of prescriptions dispensed as generics increased across periods in all groups, except for the PCCM experimental group.

CONCLUSION: Prescription drug costs may increase when FFS Medicaid clients enter an HMO or PCCM health care delivery plan.

MGB3

POSTMARKETING OUTCOMES STUDIES: BENEFITS AND RISKS

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OBJECTIVE: To consider the benefits, financial risks, and opportunity costs of large postmarketing outcomes studies as demonstrated by studies of the statin drugs.

METHODS: Literature review.

RESULTS: *Benefits*: The studies definitively showed that the drugs and lowering lipids were safe and efficacious. The studies also expanded the indications for the drugs, generated goodwill in the medical and research communities for the sponsors, allowed them to include specific claims about the drugs in their advertisements, generated follow-up studies, and spawned economic analyses that extended interest in the drugs in both the medical and lay press and had a major impact on the clinicians' use of the drug. *Risks*: The studies had a strong coattails effect. Each new study was beneficial to all the statins as well as the one studied. Economic analyses after some of the studies concluded that although the drugs effectively lowered cholesterol and prevented clinical events, use of the drugs was not cost-effective. Many studies took a long time, and it often took even longer for the results to be assimilated, to be put into perspective, and to influence other researchers and clinicians. During that time, the sponsoring companies shouldered opportunity costs as well as the actual costs of the studies. The risk that one drug company would use another company's results instead of investing in their own research did not materialize. All the major pharmaceutical companies with statins conducted their own postmarketing outcomes studies.

CONCLUSION: How a company weighs the risks and benefits of strategic studies may depend on its time perspective. In the short term, the risks may outweigh the benefits. Only those companies that have a longer perspective may find it beneficial to undertake a large postmarketing study.

MGB4

RELATIONSHIP BETWEEN QUALITY OF LIFE, DISEASE SEVERITY, AND PHYSICIAN VISITS IN MANAGED CARE PATIENTS WITH ATOPIC DERMATITIS

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The relationship between disease severity, quality of life (QOL), and resource use in patients with atopic dermatitis (AD) has not been well explored in a managed care population. As the overall lifetime incidence of AD is 15–20%, this represents a substantial burden to the healthcare system.

OBJECTIVE: To investigate how severity of illness assessed via chart review relates to patient-assessed severity, QOL, and number of physician encounters.

METHODS: Questionnaires regarding AD severity (e.g., mild, moderate, severe) were mailed to 400 participants identified from the claims database. Adults assessed their QOL using the Dermatology Life Quality Index (DLQI) and the Short Form 36 (SF-36), while children used the Children's Dermatology Life Quality Index (CDLQI). The number of physician visits for AD over the previous 12-

month period were determined from a claims database. Data were analyzed using Pearson correlation coefficients.
RESULTS: Results of the interim analysis in 150 respondents (64 adults, 86 children) indicate that patient-assessed severity had a stronger correlation with DLQI ($r = 0.43$, $p = 0.0004$) and CDLQI ($r = 0.42$, $p = 0.0011$) than did retrospectively assessed severity ($r = 0.39$, $p = 0.0015$ [DLQI]; and $r = 0.10$, $p = 0.44$ [CDLQI]). Among the eight domains reported in the SF-36, the DLQI showed the strongest correlation with the mental health domain ($r = -0.57$, $p = 0.0001$). Visit counts were significantly correlated with self-assessed severity for adults ($r = 0.40$) and children ($r = 0.32$).
CONCLUSIONS: A weaker correlation for QOL and physician visits was observed with retrospectively assessed severity than with patient-assessed severity. Self-assessed severity of illness correlated moderately well with QOL and number of physician encounters.

MGB5

ADHERENCE OF HEALTH CARE WORKERS TO HEPATITIS B VACCINATION (HBV) POLICY IS INFLUENCED BY LEADERSHIP

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Although OSHA regulations require that HBV be made available to health care workers (HCW), the participation rate with the HBV policy is low. Previous studies address characteristics of non-adhering HCW but do not use this information to subsequently develop organizational strategies to increase adherence rates.
OBJECTIVE: Determine the vaccination rates of all high-risk HCW to a HBV policy and to evaluate the effect of leadership in improving those rates at a military hospital.
METHODS: 118 HCW at high risk for hepatitis B were categorized by selected variables. Univariate analysis assessed the significance of differences between HBV status and the selected variables. A conditional probability model evaluated the response to HBV policy and subsequent organizational leadership actions to improve vaccination rates.
RESULTS: Only 61% and 56% of the military and civilian HCW had initiated the HBV series; however, 100% of the housekeepers completed the series. If a supervisor had the HBV, the Odds Ratio that the HCW had the HBV was 8.3 (95% CI 3.3, 21.1). The military HCW completion rate was increased with passive then active leadership to 85% then 100%. The civilian HCW completion rate was increased to 70% then 93%, with passive then active leadership actions during a six-month follow-up observation period. Surprisingly, directed education and worksite availability had no effect on the nursing group. Leading reasons for civilian nurses initially declining HBV were pregnancy/nursing (36%), needle phobia (28%), no knowledge of availability (21%), no time (7%), and no risk perception (7%).
CONCLUSION: Policy alone will not lead to acceptable HBV rates among HCW. Acceptable rates are achievable with both combined passive and active organizational leadership techniques.

MGB6

FORMULARY IMPACT DECISION MODELING IN HMG-COA REDUCTASE INHIBITORS

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According to the NHANES III data, a majority of patients require 20–30% reduction in their LDL-cholesterol to achieve their NCEP goal. Fluvastatin, a HMG-CoA reductase inhibitor (statin), has been shown to be both safe and effective in achieving 20–30% reductions in LDL-cholesterol, and of all the statins, it has the lowest drug acquisition cost.
OBJECTIVE: The purpose of this model was to assess the economic impact of using a two-drug formulary that includes fluvastatin and another statin, versus a one-statin formulary.
METHODS: In a hypothetical cohort of 10,000 patients, a two-drug formulary with fluvastatin as the statin of choice for mild to moderate LDL-cholesterol reduction and another agent for those patients requiring additional reduction was compared with a one-drug formulary of atorvastatin, pravastatin, or simvastatin. NHANES III data was utilized to estimate the percentage of patients requiring $<30\%$ or $\geq 30\%$ LDL-cholesterol reduction. Doses used in this model were the average daily doses required for adequate LDL reduction as estimated by 1997 IMS data, and costs of drug therapy using a weighted AWP. The cost savings was estimated by subtracting the combined drug acquisition costs of the two statins from the cost of a single statin prescribed for 100% of the patients. Sensitivity analyses were also performed on key parameters of the model.
RESULTS: Based on NHANES III estimation, over 70% of patients would require a $<30\%$ LDL-cholesterol reduction. A two-drug formulary using fluvastatin was shown to provide more cost savings than a single-drug formulary using any of the other agents, with annual cost difference ranging from $1.2 million to $3 million per 10,000 patients.
CONCLUSIONS: Using formulary modeling, managed care decision-makers can measure the economic impact of their statin choice. This model demonstrates the economic benefit of using fluvastatin in formulary management.