An estimated 10–20% of adults suffer from IBS, a functional gastrointestinal disorder that negatively affects patient's quality of life (QoL). As part of a one-year randomized, double blind, placebo-controlled study (S3B30006) of the $5HT_3$ receptor antagonist alosetron in women with IBS, QoL was assessed using the IBSQOL. **OBJECTIVE:** To determine the smallest score change on each IBSQOL scale that can be considered meaningful to the patient. **METHODS:** The IBSQOL consists of nine scales, each yielding a score of 0–100, with higher scores representing better QoL. Subjects completed the IBSQOL at baseline and both the IBSQOL and a global assessment questionnaire at months 1 and 2. The global assessment questionnaire contained nine items corresponding to the nine scales of the IBSQOL. For each item, subjects rated the change, if any, in a specific aspect of QoL relative to baseline on a 7-point scale, ranging from "markedly worse" to "markedly improved." For each IBSQOL scale, the average change score for subjects rating themselves as "slightly improved," irrespective of treatment group, was calculated to establish the minimum meaningful difference (MMD). Average change scores for "moderately improved" subjects were also calculated. **RESULTS:** The MMDs were based on 90–127 subjects per scale with the exception of sexual relations (n = 46). The following MMDs were determined: emotional—16.9 (SD = 20.2); mental health—9.0 (18.7); sleep—11.6 (19.0); energy—18.6 (20.8); physical functioning—11.3 (19.0); food—12.5 (18.6); social functioning—14.5 (17.9); role-physical—18.9 (19.1); sexual relations—19.4 (19.7). Score changes corresponding to moderate improvements were: emotional—24.8 (23.7); mental health—18.4 (18.6); sleep—18.4 (19.0); energy—30.4 (25.1); physical functioning—20.8 (20.3); food—21.3 (19.4); social functioning—27.2 (20.3); role-physical—27.4 (25.0); sexual relations—26.1 (26.3). **CONCLUSION:** Determination of MMDs for the IBSQOL may serve as a useful interpretive tool.

Productivity/Indirect Costs ICP

ICP1

INCORPORATING MEASUREMENT OF INDIRECT COSTS IN THE EVALUATION OF AN ASTHMA HEALTH MANAGEMENT PROGRAM

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Evaluations of Integrated Therapeutics Group (ITG) Asthma Health Management (AHM) programs have included measures of clinical outcomes, utilization/medical expenditures and QoL. To date, indirect costs have not been systematically assessed. **OBJECTIVES:** As part of an effort to develop and validate survey measures of productivity, this study will present significant correlates of baseline (pre-AHM implementation) mean annual costs associated with missed days from work due to asthma. **METHODS:** Data were obtained from self-reports from a random sample of adult, employed asthmatics who completed a mailed survey (N = 1275) prior to participation in an AHM program. The dependent variable was mean annual costs associated with missed days from work due to asthma, derived by annualizing missed days reported in the survey and multiplied by an estimate of wages. Independent variables included sociodemographics, health status measures, asthma-related symptomatology, utilization of medical services/pharmaceuticals, attitudes and beliefs. **RESULTS:** Mean annual indirect costs were $647 (95% CI $541–$754). In order of entrance into a multiple regression equation, significant predictors ($P < 0.05$) of increased costs were: 1) asthma-related ER/inpatient episode; 2) rating of health status as fair/poor; 3) low self-confidence in ability to manage asthma); 4) adverse symptomatology profile; (5) comorbidity of respiratory allergies; and 6) daily use of bronchodilators. As obtained from the multivariate model, an ER/inpatient episode generated an increase of $998 associated with missed work days, and relative to their more confident counterparts, patients with less confidence had increased expenditures of $344. **CONCLUSIONS:** Consistent with national data, this study reveals a substantial indirect cost burden associated with asthma. One year follow-up data on the impact of the ITG AHM program on these indirect costs will be presented.

ICP2

THE RELATIVE EFFECTIVENESS OF SELECTIVE SEROTONIN REUPTAKE INHIBITORS (SSRIS) AND TRICYCLIC ANTIDEPRESSANTS (TCAS) IN REDUCING WORKER ABSENTEEISM

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OBJECTIVE: This paper investigates the extent to which absenteeism among newly diagnosed, employed patients with depression varied among those who initiated treatment with a TCA or SSRI. Subjects were drawn from the MEDSTAT® Group's MarketScan® and Illumina® Databases. **METHODS:** These databases include information on the health care use of workers of large employers in the US. The final analytical sample contained 716 newly diagnosed employees between 1994–1996 who had absenteeism data available. Patterns of absenteeism over the six-months prior to and twelve-months following the initiation of pharmacotherapy were examined. In addition, the number of absences during the twelve-month follow-up period was analyzed using a multivariate regression method specifically designed for non-negative dependent variables. **RESULTS:** Mean monthly absences equaled 4.7 at six-months prior to drug treatment and rose to 10.2 during the month of initial antidepressant treatment. Six-months after antidepressant treatment commenced, absences declined approximately 40% to 6 per month. The mean number of total absences dur-

ing the year follow-up were significantly higher for patients beginning treatment with a TCA than with a SSRI, 101.7 (SD 68.9) versus 81.6 (SD 63.5). Controlling for confounders, males had fewer absences than females. Labor union members had significantly more absences than did non-union workers. Initiating treatment with a TCA resulted in nine additional absences compared to those beginning treatment with a SSRI. **CONCLUSIONS:** Treatment of depression with antidepressants appears to lead to improved work outcomes through decreased absenteeism. Initiating treatment with a SSRI as opposed to a TCA may reduce the indirect costs of this disease in terms of time away from work.

ICP3

FACTORS INFLUENCING PATIENT WILLINGNESS TO PAY FOR DIABETES DISEASE STATE MANAGEMENT PROGRAMS

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Pharmacists have been working to help patients better manage their health through disease state management (DSM) programs. Because third party payers have been reluctant to provide reimbursement for these services, pharmacists are starting to bill the patient for payment. A better understanding of who to target and how much to charge for DSM programs would be beneficial to pharmacists in developing and providing these programs. **OBJECTIVE:** The purpose of this study was to determine what factors influence patient willingness to pay (WTP) for a diabetes DSM program. **METHODS:** One hundred fifty-five adult patients with diabetes were surveyed by mail on the following factors to determine their effect on WTP for a diabetes DSM program: patient satisfaction with pharmacy services, health care utilization (hospitalizations and emergency room visits), perceived need for DSM, and sociodemographic factors. **RESULTS:** Patients were willing to pay on average \$27.80 (SD = \$31.80) for a one hour diabetes DSM consultation with the pharmacist. A regression model revealed that several factors significantly ($P < 0.05$) influenced patient WTP. Patients who were likely to pay more for a diabetes DSM had a greater perceived need for the service ($P = 0.004$), had more emergency room visits ($P = 0.0001$), were more likely to be male ($P = 0.009$), were more likely to be older ($P = 0.046$), and had higher incomes ($P = 0.001$) This model was significant ($P = 0.0001$) with 32 percent of the variance explained. Although patient satisfaction was not significant, it was positively correlated with WTP. **CONCLUSIONS:** The project results may be useful to pharmacists when determining the level of payment for services, as well as targeting specific individuals and tailoring DSM programs to meet diabetic patients' needs.

ICP4

HEALTH STATE PREFERENCES IN DIABETIC PERIPHERAL NEUROPATHY

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OBJECTIVE: The twofold purpose of the study was to: 1) develop health state descriptions of diabetic peripheral neuropathy (DPN) and its complications for a new utility instrument, and 2) use these descriptions to assess patient preferences for health states associated with disease progression in DPN. **METHODS:** Development and pilot testing of seven standardized health state scenarios describing disease progression and complications in DPN have previously been presented. These seven states are mild neuropathy, painful neuropathy, severe neuropathy, mild ulcer, severe ulcer, minor amputation (toe) and major amputation (below the knee). Patients between the ages of 18 and 80 years were recruited from registries of diabetic patients at the University of Washington Medical Center and the Seattle VA. Patients with a history of DPN symptoms or complications were excluded. Each patient completed a computer interview using the U-Titer II utility measurement software. Both a rating scale (RS) and a standard gamble (SG) technique were used to quantify patient preferences for standardized descriptions of the seven health states. **RESULTS:** 52 patients completed the 60-minute exercise. Overall, the mean utilities for the seven health states were lower with the RS (0.86 to 0.27) when compared to the SG (0.87 to 0.61). The preference scores followed a logical, decreasing order, in accordance with severity, with the exception of the utility for minor amputation being higher than for severe ulcer. Neither previous knowledge of DPN nor demographic characteristics were significant predictors of utility. **CONCLUSIONS:** This study has reported on the development and evaluation of a new preference-based instrument for use in DPN.

Cost Analyses CAN

CAN1

COMPARISON OF COSTS OF ASTHMA TREATMENT BETWEEN PATIENTS TREATED WITH ANTI-INFLAMMATORIES VERSUS BRONCHODILATORS

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Traditionally, bronchodilation with theophylline has been a mainstay of treatment for persistent asthma. Current treatment guidelines, however, call for reliance on anti-inflammatory therapy and recommend that theophylline and other long-acting bronchodilators be re-