**Abstracts**

**PSK3**

**“HEALTH BENEFIT LIMITS” LIMIT TREATMENT OF PSORIASIS AND OTHER DERMATOLOGICAL CONDITIONS**
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OBJECTIVE: Assess types and influence of health benefit limits on treatment of psoriasis and other dermatological conditions.  
METHODS: Five major health insurance providers in the United States, Kaiser, Foundation Health Plan, United Health Group, CIGNA Corp, Aetna Inc, and AFLAC Inc. were contacted for information regarding their health benefit limits. Annual costs of drugs were obtained from the Drug Topics Red Book 2003 for a 70-kg participant. Age at which insurance benefits would exhaust was calculated based on different onset ages for treatment costing $30,000/year and different lifetime benefit limit amounts. RESULTS: Various forms of health benefit limits were imposed by insurance companies. These companies paid a limited amount for drugs annually, with annual caps ranging from $1000 to $20,000. Companies had different payment policies for brand-name drugs and generic drugs. Lifetime benefit maximum for physician office and hospital visit expenses was another form of cap that was used. Assuming no other claims applied, analysis indicated that a lifetime benefit cap of $500,000 for treatment of psoriasis starting at age 20 years exhausted around the age of 40 years. Furthermore, an annual cap of $1000 allowed for full coverage of only methotrexate while, annual caps of $15,000 or less affected coverage for etanercept and efalizumab. For patients requiring multiple drug treatments, even higher annual caps limited drug coverage. CONCLUSIONS: Annual and lifetime limits were most common form of caps. Insurance limits potentially affect access to health care as they limit coverage of treatments for psoriasis and potentially other conditions. It is important for physicians to be aware of the variations in insurance coverage, especially before a new treatment option is explored. If insurance coverage was a standard question in the doctor-patient encounter, it could arguably improve patient compliance and outcomes.

**PSK4**

**MEDICATION-RELATED FACTORS AFFECTING HEALTH CARE OUTCOMES AND COSTS IN PATIENTS WITH PSORIASIS AND ACNE IN THE UNITED STATES**
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OBJECTIVES: Comparing relationships between health status and costs and medication related factors in the treatment of acne and psoriasis. METHODS: This was a cross sectional study comparing cohorts of acne and psoriasis patients, using the United States Medical Expenditure Panel Survey (MEPS) 2000 database. Patients were identified using the ICD-9 (International Classification of Diseases, 9th revision) code “706” for acne vulgaris and “696” for psoriasis and similar conditions. ICD-9 codes for acne/psoriasis were used in obtaining records of medical events. Costs, demographics information, health care service utilization and clinical patient variables were retrieved from the MEPS database. Health status information was obtained using the EuroQOL (EQ-5D) scores available in MEPS. Indices for medication adherence and comorbidities were also calculated using the data from the MEPS. Separate weighted multivariate linear regression analysis was performed on data for approximately 5 million acne patients and 1 million psoriasis patients (weighted sample size). RESULTS: Acne-related medication accounted for approximately 36% of the total acne related health care costs, while psoriasis-related medications accounted for almost 50% of the total psoriasis related health care costs. Both acne and psoriasis patients had an average of almost 3 annual prescription refills. Use of topical corticosteroid therapy was associated with decrease in psoriasis-specific health care costs (p < 0.022) and better health status (P < 0.01). Increased office based visits resulted in higher acne and psoriasis related health care costs (p < 0.01). Increased number of refills of acne specific drugs and oral contraceptive use was associated with an improvement in health status (p < 0.05). CONCLUSIONS: Use of controller medications in psoriasis, most notably topical corticosteroids is the primary driver of reduced health care costs and better health status. Contrary to popular belief, pharmacological treatment of acne does not significantly add to acne-related health care costs.

**PSK5**

**TREATMENT PATTERNS IN PATIENTS WITH SEVERE PSORIASIS**
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OBJECTIVES: This study examined if patients with severe psoriasis were treated in accordance with therapy/medications as per guidelines recommended by the American Academy of Dermatology (AAD) (i.e. receive either phototherapy or systemic treatment). METHODS: A survey for this study was conducted by the National Psoriasis Foundation between November and December 2004. Respondents, screened for a mix of gender and age, were interviewed over the phone (n = 188) and by online surveys (n = 212). Information on current medication use was obtained. Self-reported Body Surface Area (BSA) involvement was used to measure severity of psoriasis. BSA of greater than 10% is indicative of severe psoriasis. Severity was also assessed more globally using the Koo-Mentor Psoriasis Index (KMPI). KMPI scores of 50 and above are suggestive of significant negative health related quality of life and warrant initiation of systemic therapy. Cross sectional nature of this study permitted analysis of patients with severe psoriasis only. Descriptive data were generated to determine demographic characteristics of study population and prescription patterns. RESULTS: Approximately 55% of the population had severe psoriasis as measured by BSA, while 75% had severe psoriasis as per KMPI scores. About 19% of the study population indicated that they were currently not on any treatment. Almost 15% of the patients with severe psoriasis identified with BSA (n = 212) and KMPI (n = 299) were on some form of topical therapy alone to treat their psoriasis (i.e., they were not treated in accordance to the AAD guidelines.). CONCLUSIONS: AAD guidelines provide a standard for psoriasis treatment options and conditions for their prescriptions. Even with such easily accessible guidelines in place, this study has shown that there are several people suffering from severe psoriasis that are not on recommended therapy.

**SKIN—Patient Reported Outcomes**

**PSK6**

**USING MEDIATION MODELS TO ASSESS THE INCREMENTAL VALUE OF QUALITY OF LIFE QUESTIONNAIRES: DLQI IN PSORIASIS**
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OBJECTIVES: The objective of this analysis was to examine whether the Dermatology Life Quality Index (DLQI) provided any additional information beyond what is captured by the Psoriasis Areas and Severity Index (PASI) in psoriasis. METHODS: The DLQI is used to assess Health-related Quality of Life (HRQL) in psoriasis, with higher scores corresponding to worse HRQL. The percent improvement in PASI is the key clinical measure used to assess treatment effect in psoriasis. We used a simple mediation model, used in social science to evaluate direct and indirect effects. This model involves estimating the following equations:

\[ \Delta DLQI = i_1 + A \ast treatment \]
\[ \Delta PASI = i_2 + B \ast treatment \]
\[ \Delta DLQI = i_3 + C \ast \Delta PASI + D \ast treatment \]

If A and B are not significant, mediation is not likely to exist. The indirect effect of treatment on \( \Delta DLQI \) (mediated by PASI) is given by \( B \ast \Delta PASI \). If \( D \) is significant, \( \Delta DLQI \) provides additional information beyond what is captured by PASI. We used data from two large randomized, double-blind clinical trials, comparing infliximab to placebo. The change from baseline to week 10 was used to estimate the equations. RESULTS: A total of 1213 patients were enrolled in the two trials. The regression estimates were:

\[ \Delta DLQI = -0.51 + 9.6 \ast treatment \]
\[ \Delta PASI = 7.52 + 73.98 \ast treatment \]
\[ \Delta DLQI = 0.19 - 0.09 \ast \Delta PASI - 2.73 \ast treatment \]

The indirect effect was significant. However, the direct treatment effect on DLQI (not mediated by PASI) was also significant. CONCLUSIONS: The DLQI is a useful complement to PASI in assessing psoriasis treatments, as it captures additional information regarding treatment. Mediation analysis can be a useful method to assess the incremental value of HRQL measures. *p < 0.05.

PSK7

SMOKING—Cost Studies

POTENTIAL BENEFITS OF SMOKING CESSATION TREATMENT COVERAGE AT THE WORKPLACE

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OBJECTIVES: To demonstrate the potential benefits of coverage for pharmacologic smoking cessation treatments at the workplace by evaluation of a cost of illness model. METHODS: A cost of illness model utilizing a hypothetical cohort of 1000 employees was used to evaluate the impact of coverage versus non-coverage of pharmacologic smoking cessation treatments in the workplace represented by direct benefits to employee health and indirect benefits to employers (decreased absenteeism and increased productivity). Data were derived from a previously published smoking cessation model with future costs and outcomes discounted at 3% annually. RESULTS: By providing coverage of pharmacologic smoking cessation treatments, the rate of smoking cessation could increase by 5%, which translates to almost an additional 100 of 1000 smokers quitting over a 10-year period. This would have a direct impact on health care costs due to the avoidance of various smoking-related illnesses, such as heart disease, cerebrovascular disease, and lung cancer. In the first year following the initiation of coverage, direct savings on health care costs is projected to be approximately $21,000. After 5 years, the savings increases to $231,000, and over 10 years, a savings of $610,000 is projected. When indirect cost savings are considered, the projected economic benefit almost doubles. In the first year, health care cost savings increase to $41,000, and after 5 and 10 years, savings increase to $451,000 and $1.2 million, respectively. If the rate of smoking cessation increased from 5% to 10%, health care savings would increase to $41,000 after the first year and $1 million after 10 years. By incorporating indirect cost savings, these numbers increase to $82,000 after the first year and $2 million after 10 years. CONCLUSION: This cost of illness model demonstrates a potentially important savings resulting from the provision of pharmacologic smoking cessation treatment.

SMOKING—Methods and Concepts

EFFECT OF SMOKING ON PERCEIVED HEALTH STATUS

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OBJECTIVES: The purpose of this study was to examine the extent to which reported quality of life differs between smokers and nonsmokers when other physical and mental health status factors are controlled for. METHODS: Data from the 2003 Medical Expenditure Panel Survey was used. This dataset represents 290,604,436 non-institutionalized adults in the US, 22% of which were smokers. Three initial logistic regressions were run using smoking status as the dependent variable. The first logistic regression included demographics and education level as explanatory variables; the second model included diagnosis-related variables; and the last model considered other health-related issues such as feeling calm and peaceful, having functional limitations, etc. Variables significantly associated with smoking in the logistic regressions were used as covariates in a linear regression with perceived health status as the dependent