

**CONCLUSIONS:** An outcome guarantee is an acceptable way for a nationally funded health service to partner a pharmaceutical company for optimal diffusion of drugs likely to benefit a patient population. The model has potential for replication in other therapeutic areas and other healthcare systems.

**PHP34**

**IMPROVING OUTCOMES THROUGH ACCESS TO CRITIQUED ECONOMIC EVALUATIONS: THE NHS ECONOMIC EVALUATION DATABASE WITHIN THE HTA REVIEW PROCESS**

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**OBJECTIVE:** Outcomes in healthcare technology reviews now increasingly include cost as well as effectiveness. The aim of this study is to report the findings and implications of a survey regarding the usefulness of NHS Economic Evaluation Database (NHS EED) structured abstracts within this process. **METHODS:** Postal survey of lead authors of Technology Assessment Reviews (TARs) commissioned by the UK's National Institute for Clinical Excellence. The questionnaire investigated the usefulness of NHS EED regarding: search strategy, data extraction, quality assessment, and requirement for new modeling studies. Qualitative data were requested, including opinions regarding NHS EED. **RESULTS:** NHS EED was used in 90% of all identified reviews (n = 46). The questionnaire response rate was 57%. The percentage of scores 3 or above, 2 or below, or N/A were, respectively: search strategy = 60%, 22%, 17%; data extraction = 26%, 26%, 48%; quality assessment = 30%, 22%, 48%; requirement for new modeling studies = 22%, 26%, 52%. The results were expanded upon in the qualitative data from the respondents. **CONCLUSIONS:** Where several economic evaluations had been published NHS EED was utilized and valued as an independent source, and was highly useful to non-economists. However, those undertaking TARs also used confidential data from company submissions and cost data for studies not critiqued on NHS EED. More standardization and use of quality checklists in reviews of economic studies is clearly needed. The findings will help in developing and improving NHS EED in its role of providing health outcomes and economic evidence in TARs.

**PHP35**

**AN ANALYSIS OF THE HEALTH AND PRODUCTIVITY COST BURDEN OF THE PHYSICAL AND MENTAL HEALTH CONDITIONS AFFECTING SIX LARGE CORPORATIONS IN 1999**

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**OBJECTIVE:** To estimate the most costly disease conditions affecting medical, absenteeism, and short term disability (STD) expenditures affecting a subset of American employers. **METHODS:** The Medstat Group's 1999 Health and Productivity Management (HPM) Database was used for this analysis. The HPM database links medical, pharmacy, STD, and absence claims for over 340,000 employees. Medstat's Episode Grouping software product was used to classify and organize employees' inpatient, outpatient, emergency department (ED) and pharmaceutical claims temporally, so they could be connected to the treatment of any given condition. Absence and STD claims associated with each clinical episode were then added. The most costly physical and mental health conditions were then ranked by their overall medical, pharmacy, absence and STD expenditures. **RESULTS:** Across all physical health conditions, employers paid an average of \$2505 per eligible employee for medical care (71% of total), \$316 per employee for STD (9% of total), and \$703 per employee in absence (20% of total). Medical care expenditures included money for: inpatient care-\$687 (20% of total), outpatient care-\$1321 (38% of total), ED treatment-\$57 (2% of total), and pharmaceuticals-\$440 (12% of total). When considering per-eligible payments for mental health conditions, \$94 (53% of total) was paid through health benefits, \$23 (13% of total) was paid through STD programs, and \$61 (34% of total) was as a result of employee absence from work. Medical expenditures for mental health care included money for inpatient care-\$21 (12% of total), outpatient care-\$45 (25% of total), ED treatment-\$0.3 (0.2% of total), and pharmaceuticals-\$28 (15% of total). **CONCLUSIONS:** Although health care expenditures account for the majority of costs faced by American businesses, productivity-related costs can be high as well. Inpatient, outpatient, ED, and drug cost, along with STD and absence costs, varied greatly by disease.

**PHP36**

**COSTS ASSOCIATED WITH FALLS IN COMMUNITY DWELLING ELDERLS**

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**OBJECTIVE:** Falls are a major problem for the community-dwelling elderly. About 30% of this group experience a fall each year and between 4 and 10% of community-dwelling elders experience a fall-related injury. Further, falling occurrence is a significant predictor of institutionalization and death. The objective of this study was to provide an annual estimate of the direct medical costs associated with fall-related injuries among the community dwelling elderly. The study was done from the payer's perspective. **METHODS:** Data from the 1997 Medical Expenditure Panel Survey (MEPS) were analyzed to identify elderly respondents who reported a fall-related

injury and to estimate the cost of treating those injuries. Weighted analyses were used to produce estimates that represented the cost of fall-related injuries in the civilian non-institutionalized population in the United States for 1997. Cost estimates were based on actual reimbursements. Costs were estimated for inpatient hospital care, emergency room visits, outpatient hospital services, office-based provider visits, dental care, home healthcare and prescription drugs. **RESULTS:** In 1997, 2.9 million individuals (9.0% of the non-institutionalized elderly population) reported medical conditions related to 3.3 million falls. Fall-related medical care was provided to 2.3 million individuals. Of the reported fall-related injuries, 25.5% were fractures and 3.5% were hip fractures. Total direct medical cost of fall-related care was \$5.01 billion. Mean values were \$1521 per fall-related injury, \$1716 per injured faller, and \$2163 per patient receiving fall-related care. The median expense per injured faller was \$151 and the maximum expense was \$43,566. The most frequently utilized services for fall-related care included office-based visits, prescription drugs, and emergency room visits. Inpatient hospitalizations, while much less utilized, accounted for nearly half of total costs. **CONCLUSIONS:** Fall-related injury is a common event for the community-dwelling elderly and is associated with substantial direct medical costs.

**PHP37**

#### **UTILIZATION PATTERNS AND RISK FACTORS FOR HIGH COST RECIPIENTS IN MEDICAID POPULATION**

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**OBJECTIVES:** To describe the characteristics and utilization patterns of Medicaid patients with high health care costs, and assess the risk factors associated with those high cost recipients. **METHODS:** High cost recipients were identified as those whose average monthly Medicaid expense was in the upper 90 percentile of the population. A sample of recipients consisting of 23,965 non-nursing home recipients (12,222 high cost recipients, and 11,743 comparison recipients) were identified for this study using retrospective data analysis of Ohio Medicaid claims from January 1, 1999 to December 31, 2000. Adjusted Clinical Group<sup>®</sup> software was used to categorize population-based clinical characteristics for high cost. Logistic regression analysis was conducted to assess the risk factors associated with high cost recipients. **RESULTS:** The average monthly costs were \$2679 per high cost recipient and \$185 per comparison recipient. Major cost components were hospitalization, prescription drugs, mental health, physician encounters, and outpatient care. For recipients age 64 or younger, the odds ratios of the risk for high cost were: 1.35 (95% CI 1.26–1.46) for male recipients; 6.72 (CI 6.03–7.51) for

disabled or blind recipients, 1.8 (CI 1.64–1.97) for urban recipients, 4.64 (CI 2.93–7.79) for recipients who died during the study period, and 1.38 (CI 1.36–1.39) for each additional comorbid condition. For recipients age 65 or older, the odds ratios of the risk for high cost were: 5.89 (95% CI 3.61–10.0) for disabled or blind recipients, 1.96 (CI 1.40–2.78) for recipients who died during the study period, and 1.2 (CI 1.36–1.39) for each additional comorbid condition. **CONCLUSION:** To prevent future health care costs, it is important to focus on those high-risk recipients with chronic diseases and many comorbidities, being disabled/blind eligible, being male in Medicaid, and living in urban areas through appropriate drug utilization review or disease management programs.

**PHP38**

#### **THREE-YEAR PREDICTIVE MODEL OF MEDICAL COST RISK AND METHODOLOGICAL ISSUES RELATED TO AN EXPANDED PHARMACY CLAIMS RISK INDEX**

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**OBJECTIVES:** To test the performance of an expanded risk index based on pharmacy claims over longer time periods than previous models. To investigate new alternative methods of handling skewed distributions of medical cost data. **METHODS:** An expanded pharmacy claims risk index was compiled from previous literature and clinical review to include 50 chronic diseases. Each disease state was assigned a weighted score based on relative clinical severity. Scores from each disease state were totaled to obtain an overall risk score per member. The score was applied to a continuously eligible adult population (>18 years) of 116,371 members from a million member mid-western Health plan between August 1, 1998 and July 31, 2001. A baseline pharmacy claims risk score was calculated for August 1, 1998 through July 31, 1999 and used in conjunction with age and gender to predict total costs of care (medical costs and pharmacy costs combined) for the next 2 years using a split-sample linear regression model building and validation technique. Various methods for handling non-normal distribution in the medical cost outcome were evaluated including a new 2-part modeling approach. **RESULTS:** The index was highly correlated with third year pharmacy costs (Spearman rho 0.65  $p < 0.001$ ) and moderately correlated with medical costs (Spearman rho 0.30  $p < 0.001$ ) and all costs of care (Spearman rho 0.45  $p < 0.001$ ). Age (categorical) and baseline pharmacy risk index (categorical) were significant predictors of third-year all costs of care. The R<sup>2</sup> for the linear 3-year model (0.05) was improved significantly by log transformation of the cost outcome (R<sup>2</sup> = 0.26) in both the estimation and validation samples. However a 2-part modeling approach may improve predictive precision. **CONCLUSIONS:** This expanded pharmacy claims risk index is a significant predictor of total costs of care two years from baseline.