

PHS26

IMPACT OF NON-MEDICAL SWITCHING ON HEALTHCARE COSTS: A CLAIMS DATABASE ANALYSIS

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OBJECTIVES: This analysis evaluated the impact of non-medical switching (switching for a reason that is not medically related such as due to costs) from adalimumab (ADA) to another injectable biologic (certolizumab, golimumab, etanercept, or ustekinumab) on healthcare costs in patients with rheumatoid arthritis, psoriasis, psoriatic arthritis, ankylosing spondylitis, or Crohn's disease following a formulary management change by large national payor. **METHODS:** Medically stable adult patients with ≥ 90 days continuous ADA use were identified in OptumInsight database (07/01/2012–06/30/2013). Patients who subsequently switched to another biologic (index date) following a payer formulary change and for no apparent medical reason between 01/01/2013–06/30/2013 were defined as non-medical switchers. Patients who remained on ADA therapy during this period were defined as maintainers and their index dates were chosen randomly. Patients with hospitalizations, emergency department (ED) visits, or substantial increases in ADA dose 6 months pre-index (baseline) were excluded to ensure medical stability. Outcomes included all-cause and indication-related medical (hospitalizations, ED visits, and outpatient visits) and total (medical and pharmacy) costs. T-tests and multivariate regression analyses were used to compare cohorts in costs incurred during the 6 months post-index (follow-up) and in costs difference from baseline to follow-up. **RESULTS:** Mean age was 46 and 48 years, respectively, for maintainers ($n=2,693$) and switchers ($n=985$). Switchers incurred significantly higher all-cause medical costs (\$4,557 vs \$3,310; $P=.0011$) and total costs (\$21,996 vs \$17,379; $P<.0001$) during follow-up vs maintainers. Differences from baseline to follow-up were significantly greater for non-medical switchers compared to maintainers in all-cause medical costs (\$1,476; $P<.0001$) and total costs (\$6,355; $P<.0001$). Adjusted regression analyses and indication-specific results yielded consistent findings. **CONCLUSIONS:** These real-world analyses of patients stabilized on ADA demonstrated that maintaining therapy with ADA was associated with significantly less healthcare expenditures compared to switching to another anti-TNF for a non-medical reason.

PHS27

INCREASED HEALTHCARE UTILIZATION ASSOCIATED WITH OBESITY

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OBJECTIVES: The obesity pandemic is driving an increase in healthcare utilization. However the specific breakdown of increased morbidity and associated usage requires linked primary care, chronic disease and hospitalization registries. Clalit Health Services (CHS), with its comprehensive stable database of over 4 million members, provides a strong base for comparing morbidity and health care utilization between obese and non-obese patients, thus laying the groundwork for informed health care policy. **METHODS:** We selected two random samples, 10,000 obese ($BMI>30$ 1/Jan/2011) patients and 10,000 not-overweight ($BMI<=25$) from the CHS database aged 25–74, matching CHS population age standard. We linked both datasets to the chronic disease registry, identifying the following diagnoses: diabetes, ischemic heart disease (IHD), congestive heart failure (CHF), hypertension (HTN), s/p cerebral vascular accident (CVA), chronic renal failure (CRF), and rheumatoid arthritis (RA). We compared disease prevalence, hospital admission rates and total cost for the groups. **RESULTS:** The prevalence of all chronic disease The greatest effect was seen for diabetes ($RR=3.39$ CI 3.15–3.65), CHF (2.23 1.79–2.78), and HTN (2.34 2.22–2.46) but also for IHD, CVA, CRF and RA (1.77, 1.69, 2 and 1.37 respectively). Risk of hospitalization over three years was increased (1.34 1.28–1.42) and, on average, there were 58% increase in hospitalizations and 303% overall increased cost of healthcare compared to non-obese patients. **CONCLUSIONS:** The presence of obesity increases risk of severe comorbidities within the general population. Obesity increases risk of any hospitalization and both total cost and total hospital admissions among patients. Our findings suggest the need for intensive proactive health care policy to prevent and remedy obesity to prevent the financial collapse of over-stretched health organizations, and indicate the potential for cost-effectiveness of interventions, whether behavioral, pharmaceutical, or surgical, or combinations thereof.

PHS28

COST OF IMPLEMENTING A PEDIATRIC NEUROCRITICAL CARE CENTER

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OBJECTIVES: This study analyzes the costs of hospital care to children with TBI before and after a pediatric neurocritical care center (PNCC) implementation. A previous study¹ with this sample showed improved clinical outcomes. **METHODS:** This retrospective cohort study includes 63 patients in the pre-PNCC group, and 59 post-PNCC patients. We merged demographic and clinical data with cost data from the hospital finance office for the same patient hospitalization. Outcome variables included total cost percentage ((direct + overhead)/median total cost pre-PNCC*100%), and overall length of stay (LOS) and PICU LOS. Mann-Whitney U's, chi-squares, and multiple linear regression were utilized. **RESULTS:** Gender, race, injury mechanism, age at admission, Glasgow Coma Score, and PRISM III score were similar in the pre and post-PNCC groups ($p>0.05$ for all). While PICU length of stay (LOS) increased post-PNCC (median (IQR) pre: 11 (5–15) v. post: 14 (7–22), $p=0.02$), the overall hospital LOS did not change (pre: 32 (14–55) v. post 37 (17–58), $p=0.42$). Total cost percentage increased from a median(IQR) of 100% (61–181%) to 143% (95–218%), $p=0.04$. After adjusting for covariates, total costs percentage was still significant post-PNCC compared to pre-PNCC ($b(\text{se})=16.2(5.4)$, $p=0.003$). LOS and PICU LOS were also positively related to total costs ($b(\text{se})=2.6(0.1)$ and $2.6(0.4)$ respectively, $p<.0001$ for both). **CONCLUSIONS:** After adjusting for PICU LOS, PNCC implementation remained associated with an increase in total cost. One would need to look outside of the initial hospitalization to determine if PNCC is cost effective given the improved clinical outcomes. 1 Pineda et al. Effect

of implementation of a paediatric neurocritical care programme on outcomes after severe traumatic brain injury: a retrospective cohort study. The Lancet Neurology, Volume 12, Issue 1, p 45 – 52, January 2013.

PHS29

DIFFERENCES IN THE TOTAL HEALTHCARE COSTS DURING THE YEAR OF DIAGNOSIS BETWEEN APPALACHIAN AND A NATIONAL COHORT OF ELDERLY WOMEN WITH BREAST CANCER: AN APPLICATION OF DECOMPOSITION TECHNIQUE

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OBJECTIVES: The primary objectives of this study were to estimate the average costs during the initial phase of care (year of diagnosis) among West Virginia (WV)-Medicare beneficiaries with breast cancer (BC) and compare it with the national estimates from the Surveillance, Epidemiology, End Results (SEER)-Medicare database using a linear decomposition technique. **METHODS:** A retrospective observational study was conducted where the study cohorts consisted of elderly women age > 66 with incident BC between 2003 and 2006 in WV-Medicare and SEER-Medicare. Total costs were the actual medical payments for all services derived from Medicare files. Generalized linear regressions with log link and gamma distribution were performed. Blinder-Oaxaca decomposition was conducted to examine the extent to which predisposing, enabling, need-related, healthcare use and external healthcare environmental factors contributed to the differences in the average costs. **RESULTS:** Total average costs for WV-Medicare cohort during the initial phase of care were lower (\$19,875) as compared to the SEER-Medicare cohort (\$22,881), a difference of \$3,006. After adjusting for other factors, the difference was \$549 and remained significant. Only 16% of the difference in the average costs between the two cohorts were explained by the independent variables included in the model. Enabling resources (6.85%), healthcare use (7.53%) explained most of the differences in costs. **CONCLUSIONS:** Total average costs of BC care were lower in a rural state compared to the national estimates. The differences in the costs were not explained by the patient-level factors included in the model.

PHS30

ASSESSING THE FULL BURDEN OF CARE FOR AGITATION IN PATIENTS WITH SCHIZOPHRENIA AND BIPOLAR I DISORDER

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OBJECTIVES: Patient care burden to health professionals (HPs) and health care institutions for many disorders, including agitation in schizophrenia or bipolar I disorder, may not be fully captured through claims data and/or medical records. The study objective was to assess this burden, specifically for agitated patients with schizophrenia and bipolar I disorder who visit emergency departments or psychiatric emergency service units. **METHODS:** This study consists of one-on-one qualitative telephone interviews followed by a web-based survey. Interviews are conducted with 10 emergency setting-based HPs (physicians, nurses, aides, ED/hospital administrators, and social workers). Interviews follow a semi-structured guide with specific probes/prompts to capture the intangible impacts that drive indirect and direct costs of care. The guide includes general open-ended questions and specific questions on specific areas of impact, including physical, psychological, and emotional impacts on the HP, as well as impacts on job performance and satisfaction. The interview findings inform a web-based survey (administered to a similar mix of 200 treating HPs) which includes multiple choice questions, rating questions, ranking exercises, and open-ended questions. The survey collects data such as characteristics of HPs, burden of treating patients including use of restraints, isolation, boarding, length of stay, staff abuse and injury, and direct costs. **RESULTS:** The results from the on-going interviews and web survey of the indirect burden of treating these patients with agitation will be reported. **CONCLUSIONS:** This interview and survey methodology comprehensively assesses the full burden of treating agitation in schizophrenia or bipolar I disorder patients from the point of view of various HPs. This study will help bridge the gap on the indirect burden of treating patients with agitation, and can be used to complement direct burden of care data. This methodology can be applied to other disease areas to comprehensively assess the burden of patient treatment.

PHS31

COMMON REASONS FOR AND ASSOCIATED COSTS OF PEDIATRIC INPATIENT ADMISSIONS IN THE UNITED STATES

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OBJECTIVES: The objective of this retrospective database analysis was to examine the most common reasons for hospitalization and the associated burden of these hospitalizations among children in the United States. **METHODS:** Data from the 2012 Healthcare Cost and Utilization Project's (HCUP) Kids' Inpatient Database (KID) were assessed for this analysis. The top-10 most common primary discharge diagnoses (ICD-9-CM) were obtained for children aged 1–4, 5–9, and 10–14 years. The length of stay (LOS) and costs for each of these admissions were reported. Costs were estimated based on charges and hospital specific cost-to-charge ratios. **RESULTS:** The most common primary discharge diagnoses were: children 1–4 years ($N=481,859$), pneumonia ($N=41,716$) and acute asthma exacerbation ($N=27,453$); children 5–9 years ($N=321,535$), pneumonia ($N=20,240$) and acute asthma exacerbation ($N=18,147$); and children 10–14 ($N=359,000$), years acute appendicitis ($N=18,487$) and affective psychoses ($N=13,221$). Across all age groups, pneumonia, asthma, and chemotherapy administration were included in the top-10 most common diagnoses. For children 1–4 years, chemotherapy administration had the greatest burden (mean LOS=5.0 days, mean costs=\$12,438; LOS range: 1.4 croup–2.6 pneumonia; cost range: \$2,629 croup–\$5,164 acute bronchiolitis). For children 5–9 years, affective psychoses had the longest LOS (mean LOS=8.1 days; range: 1.2 fractured humerus–4.8 acute appendicitis) and acute appendicitis had the greatest cost (mean cost=\$12,104; range: \$3,204dehy-