

OBJECTIVES: To estimate the prevalence and losses in quality-adjusted life years (QALYs) associated with 20 child health conditions. **METHODS:** Using the 2009–2010 National Survey of Children with Special Health Care Needs, preference weights were applied to 14 functional difficulties to summarize the quality of life burden of 20 health conditions. Furthermore, a scatterplot shows the association between condition prevalence and burden. **RESULTS:** Among the 14 functional difficulties, “a little trouble with breathing” had the highest prevalence (37.1%), but amounted to a loss of just 0.16 QALYs from the perspective of US adults. Though less prevalent, “a lot of behavioral problems” and “chronic pain” were associated with the greatest losses (1.86 and 3.43 QALYs). Among the 20 conditions, allergies and asthma were the most prevalent but were associated with the least burden. Muscular dystrophy and cerebral palsy were among the least prevalent and most burdensome. **CONCLUSIONS:** In child health, condition prevalence is negatively associated with quality of life burden from the perspective of US adults. Both should be considered carefully when evaluating the appropriate role for public health prevention and interventions.

PIH38

STATUS OF MATERNAL DEPRESSION IN RELATION TO HEALTH-RELATED QUALITY OF LIFE FOR PREGNANT WOMEN IN CHINA: RESULTS FROM A HOSPITAL-BASED SURVEY

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OBJECTIVES: Maternal depression is hypothesized as a risk factor for compromised health-related quality of life (HQOL) during pregnancy. The objective of our study was to compare HQOL for pregnant women with or without depression and provide evidence for early detection of depression during pregnancy in China. **METHODS:** Women at the third trimester of pregnancy were consecutively recruited from antenatal clinics of West China Second Hospital between October 2013 and February 2014 in Chengdu, China. They were surveyed using a questionnaire comprised of basic information of pregnant women, the Chinese version of the Edinburgh Postnatal Depression Scale (EPDS), and the Generic Medical Outcomes Study Short Form-36 (SF-36). **RESULTS:** A total of 2242 pregnant women aged 30.0 ± 4.0 years responded to our survey. Compared with women with depression during pregnancy (EPDS score ≥ 13), those without antepartum depression (EPDS score < 13) had higher HQOL scores. SF-36 dimension scores (mean ± SD) for the two groups were 59.69 ± 18.72 vs 63.24 ± 16.53 for physical function (PF); 43.10 ± 24.66 vs 52.05 ± 24.90 for role-physical (RP); 59.90 ± 19.65 vs 70.21 ± 17.61 for body pain (BP); 60.98 ± 17.92 vs 74.23 ± 15.32 for general health (GH); 50.84 ± 15.40 vs 62.19 ± 14.50 for vitality (VT); 65.09 ± 18.66 vs 76.82 ± 16.99 for social function (SF); 55.49 ± 26.55 vs 75.37 ± 25.80 for role-emotional (RE); and 62.20 ± 13.33 vs 80.59 ± 10.62 for mental health (MH) (P < 0.01 for comparisons in each dimension). Multiple linear regression analysis showed that EPDS scores were statistically associated with SF-36 scores (beta = -3.81 for PF; -9.07 for RP; -10.52 for BP; -11.36 for GH; -10.17 for VT; -11.99 for SF; -18.37 for RE; and -17.50 for MH. P 0.01 for all comparisons). **CONCLUSIONS:** Pregnant women with depression show poorer HQOL during pregnancy than those without depression. It indicates a necessity for routine screening of maternal depression to relieve its negative impact on pregnant women's life.

PIH39

UNDERSTANDING APPARENT HEALTH OUTCOME DISPARITIES BETWEEN ETHNIC GROUPS IN THE U.S

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OBJECTIVES: This study aims to understand ethnic group disparities in health outcomes by examining health-related quality of life (HRQoL), work productivity loss, and resource use. **METHODS:** The data came from the 2013 US National Health and Wellness Survey, a representative, cross-sectional general health survey (N=75,000). Respondents were categorized into ethnic groups based on self-reported race and Hispanic origin questions: White (n=57,916), Black (n=7,855), Hispanic/Latino (n=6,192), Asian (n=3,792), Other/Multi-ethnic (n=2,534). Differences were examined for HRQoL (SF-36v2: mental and physical component summary (MCS, PCS) and SF-6D (health utility) scores), productivity loss (Work Productivity and Activity Impairment questionnaire), and resource use in the past 6 months. Initial analyses used one-way ANOVAs and multivariable generalized linear models were used to control for demographic and health characteristics (e.g., income) to examine the unique effect associated with ethnicity. **RESULTS:** Preliminary comparisons revealed White respondents had the highest MCS scores (Mean=49.41) and health utility scores (M=0.74) whereas Hispanic/Latinos and Other had the lowest MCS (M=46.13, M=46.74, respectively) and health utility (M=0.71, M=0.70) scores (all ps < .05). Asian respondents had the highest PCS scores (M=52.20) with Other having the lowest (M=49.19; p < .05). Overall, White respondents had less work productivity loss (M=14.17%) and activity impairment (M=22.22%) than Hispanic/Latino (work productivity loss M=22.30% and activity impairment M=24.41%) or Other (work productivity loss M=19.06% and activity impairment M=26.20%; all ps < .05). Relative to Hispanics, White respondents reported less ER visits (M=0.19 vs. 0.34) and hospitalizations (M=0.11 vs. 0.23; all ps < .05). Adjusted models lessened many of these differences, often likening White respondents to those of ethnic minority groups. **CONCLUSIONS:** Initial analyses showed White respondents had higher HRQoL, less work and activity impairment, and lower resource use. However, after controlling for confounders, many of those differences were minimized indicating that factors other than ethnicity may more strongly influence health outcomes such as income.

PIH40

VALUATION OF CHILD HEALTH-RELATED QUALITY OF LIFE IN THE UNITED STATES

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OBJECTIVES: Many economic analyses fail to incorporate evidence on child health-related quality of life (HRQoL) due to a paucity of quality-adjusted life year (QALY) estimates. This health valuation study is the first to summarize the EQ-5D-Y on a QALY scale. **METHODS:** Drawn from a nationally representative panel, 5207 adult respondents were asked to choose between 2 losses in child HRQoL. **RESULTS:** Based on their choices, a 1-year increase in child pain/discomfort from “some” to “a lot” equals a loss of 4 QALYs (CI 95% 3.8–4.4). Likewise, a 1-year increase in child anxiety/depression from “a bit” to “very worried, sad or unhappy” equals a loss of 2 QALYs (CI 95% 1.9–2.2). **CONCLUSIONS:** These findings enable the integration of child-reported outcomes with adult preferences to inform economic analysis. Results inform both clinical practice and resource allocation decisions by enhancing understanding of difficult tradeoffs in child-reported outcomes.

PIH41

THE VALUE ADULTS PLACE ON CHILD HEALTH AND FUNCTIONAL STATUS

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OBJECTIVES: By summarizing the value adults place on child health and functional status, this study provides a new quantitative tool that enhances our understanding of the benefits of new health technologies and illustrates the potential contributions of existing datasets for comparative effectiveness research in pediatrics. **METHODS:** Respondents, ages 18 and older, were recruited from a nationally representative panel between August 2012 and February 2013 and completed an online survey with a series of paired comparisons. Specifically, they chose between child health and functional status outcomes; these were described using the National Survey of Children with Special Health Care Needs, a 14-item descriptive system of child health outcomes, ages 0 to 17 years. Using respondent choices regarding an unnamed 7- or 10-year-old child, generalized linear model analyses estimated the value of child health and functional status on a quality-adjusted life year scale. **RESULTS:** Across the domains of health and functional status, repeated or chronic physical pain, feeling anxious or depressed, and behavioral problems (such as acting out, fighting, bullying, or arguing) were most valuable, as indicated by adult respondents' preference of other health problems to avoid outcomes along these domains. **CONCLUSIONS:** These findings may inform comparative effectiveness research, health technology assessments, clinical practice guidelines, and public resource allocation decisions by enhancing understanding of the value adults place on health and functional status of children. Improved measurement of public priorities can promote national child health by drawing attention to what adults value most and complementing conventional measures of public health surveillance.

PIH42

“WOULD YOU LIKE AN ALL-INCLUSIVE LUXURY HOLIDAY WITH FIRST CLASS FLIGHTS TO EGYPT WITH YOUR SOVALDI PRESCRIPTION” - INNOVATIVE COST-SAVING SOLUTIONS FOR US PAYERS

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OBJECTIVES: Gilead implemented a tiered global pricing strategy for SOVALDI where the price reflects a county's ability to pay; a 12-week treatment course in the US costs \$84,000 versus \$840 in India, Egypt and Brazil. SOVALDI has generated some strong payer outcry as its price combined with the large patient population results in a substantial budget impact. This research aimed to evaluate how it could be money-saving for US insurers to reimburse patients for luxury holidays to Egypt where SOVALDI is available at a 99% discount. **METHODS:** On the 26th November 2014, prices were sourced for the Fairmont Cairo 5-star hotel alongside first-class flights on Emirates airline for trips at the following weekend (Friday 28th to Sunday 30th November) reflecting the potential need for prompt commencement of treatment following diagnosis. **RESULTS:** The most expensive suite at the Fairmont Cairo was the 233m2 “Diplomatic Suite King,” overlooking the Nile at \$10,000 a night for 2 people. First-class flights for 2 persons leaving on the 28th November and returning on the 30th would cost \$42,754. Therefore, US insurers could afford to send hepatitis C patients along with a friend/partner on a luxury weekend break to the most expensive suite in a 5-star hotel in Cairo to collect their SOVALDI prescription for a total of \$63,594. This means that insurers could give the patient an additional \$10,000 in spending money and still make cost-savings exceeding \$10,000, as compared to having SOVALDI dispensed in the US. **CONCLUSIONS:** The availability of high-cost therapeutics in other countries at a fraction of the price that it costs in the US, offers opportunities for US payers to save costs whilst simultaneously offering quality-of-life improving vacations for patients. Is it feasible to offer patients such options? If so, could increasing international price arbitrage for pharmaceuticals open a new market?

PIH43

ANALYSIS OF SURVEY DATA FOR LEARNING EFFECTIVENESS EVALUATION OF A TALENT MANAGEMENT PROGRAM FOR DAIRIES AND FEEDLOTS

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OBJECTIVES: Training courses are provided for human capital services that strive to make proper talent management a competitive advantage for producers in the US livestock market. This analysis measures the effectiveness of the training program including ROI, identifies the demographics of the most successful learners and necessary program adjustments. **METHODS:** Utilizing a survey data collection instrument and analytics software application that includes program specific benchmarks, course participants were invited to complete a Follow Up survey >2 mos. post completion. Survey data from November 2012–December 2014 including 124 Follow up surveys and 19 Manager surveys were analyzed. For Likert-type questions (1 – 5 response scale) a percent favorable, also known as a top two box, was used to display response data. For percentage based questions (0%–100% response scale in 10% increments), a simple average calculation was used to dis-

play response data. Analysis by question, category and demographic descriptor was performed. **RESULTS:** 90% of learners were able to apply the content of the training within 4 weeks. Learners reported a notable increase in improving animal health and production as a result of the training. Most learners (>90%) view the program as a worthwhile investment in their career. Significantly less managers feel the same way (<45%). A ROI calculation result for total percent job improvement due to training is 1.7 times the top 25% benchmark. Surprisingly, those with greater than 10 years tenure find the program to be just as worthwhile or more compared to the other tenure groups and the group with the largest number of employees also saw the greatest Job Impact from the training. **CONCLUSIONS:** The training provides much needed resources for the industry since most learners found it a worthwhile investment and the ROI calculation is high. This analysis allows for data driven decisions to be made for program adjustment and learner selection.

PIH44

TRENDS IN PATIENT CENTERED RESEARCH IN THE PUBLISHED LITERATURE

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OBJECTIVES: In a previous study we found a steep increase in the use of the term "patient-centered" in the published literature from <10 articles in the 1960s to >3000 in the 2010s. We also noted an increase in the proportion of articles in each decade reporting original research (17 vs 90%). The objective of this study was to further examine the subset of articles reporting original research. **METHODS:** We searched EMBASE for articles written in English between 1950-2013 with 'patient-centered' in the title or abstract. We selected a random sample of 10 articles within each decade and captured data from the title and abstract on the focus of the article (healthcare, research, or teaching). We selected those focused on research and extracted additional data on the study design, data collection methods, number of cases, comparator group, and statistics used. We examined trends in these variables over time using tabular and graphical methods. **RESULTS:** Our search identified 5051 publications, of which 2222 reported original research, from 1966-2013. Articles in earlier decades tended to report qualitative research (>55%), whereas articles published since 2010 used more sophisticated study designs (>75%). The majority of studies in all decades employed descriptive statistics; however multivariate methods were used in 25% of studies in the 2010s. The use of a comparator group (16 vs 50%) and the average number of subjects (38 vs 687) also increased steadily over time. **CONCLUSIONS:** In addition to the increase in original research publications with "patient-centered" in the title or abstract over the last 50 years, we observed an increase in scientific and methodological rigor among these original research articles. These findings are consistent with the rise in personalized-medicine in the healthcare industry today, as well as the upsurge in the use of patient-reported outcome data that characterizes clinical research today.

PIH45

CAN A WEB-BASED TOOL TO FACILITATE COMMUNICATION BETWEEN PATIENT AND HEALTHCARE PROVIDERS IMPROVE PATIENT-REPORTED OUTCOMES?

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OBJECTIVES: Patients with barriers such as normal anxiety around illness, low assertiveness, or cognitive issues may have trouble communicating with their healthcare providers (HCP). HCPs are under increasing pressure to see more patients daily. Can a web-based training and worksheet help patients have improved outcomes, even in the face of these challenges? **METHODS:** US and European patients were trained to produce an electronic, printable worksheet that contained the following: a detailed description of their primary complaint, including location, duration, and intensity according to Likert scale, correlation to activity, quality, and history. The worksheet also included a functional impact statement around daily activities of living and social activities, a therapy preferences statements and a statement of symptom management goals. **RESULTS:** Of 25 patients, 14 responded to an outcomes survey: 10/14 (71%) of the respondents were female, with a range of 30-72 years of age 6/14 (42.9%) consulted 5 or more HCPs and 9/14 (64.3%) had 5 or more healthcare visits for their healthcare issue prior to completing the worksheet 9/14 (64.3%) indicated they had some miscommunication with their HCP regarding medication A majority of patients had received costly blood tests (81.8%), X-rays (72.7%), and MRI/CATS scans (63.6%) for their healthcare issue Most patients (78.6%) used the worksheet to have a discussion around a new treatment option they hadn't previously discussed, and almost half 6/14 (42.9%) were able to get a diagnosis for a healthcare issue not previously diagnosed using the worksheet; Many [9/14 (64.3%)] said the worksheet helped reduce office-visit related anxiety and helped them discuss symptom management [8/14 (57.2%)]. **CONCLUSIONS:** This simple web-based tool was useful in facilitating communication between patients and their HCPs, which led to diagnosis, receiving new treatments, and better symptom management, even in patients with long-standing healthcare issues, multiple visits, extensive testing, and multiple healthcare providers.

PIH46

PATIENT REPORTED OUTCOMES: ARE THEY RELEVANT TO U.S. PAYERS?

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OBJECTIVES: Identify the current and future relevance of Patient Reported Outcomes (PROs) among U.S. payers making patient access decisions for pharmaceuticals **METHODS:** Double blind, semi-structured telephone interviews with 12 U.S. payers, including: National and regional commercial payers; Accountable Care Organizations; Pharmacy Benefit Managers; Self-insured employers; Actuaries; Veterans Affairs; and Department of Defense. Interviews included open-ended questioning and structured rating scales where 10=highest and 1=lowest possible score per concept. **RESULTS:** Payers perceive PROs as the, "Consequences of the disease and drug as assessed by the patient..." Average rating scale responses were:

How relevant are PROs? today? = 3.7 in 5 years? = 6.4 Would you like to see more PRO evidence? today? = 6.1 in 5 years? = 6.6 Should pharmaceutical companies invest more in PROs? today? = 5.6 in 5 years? = 6.3 The sum of the 6 scales (min= 6, max = 60) ranged from 12 to 58, highlighting diversity across payers. PRO relevance was associated with the duration of enrollment and thus total amount of risk. DoD and ACOs reported the highest relevance, National Commercial Health plans the lowest. Education was consistently identified as a need to aid interpretation of PRO data to support patient access decisions. **CONCLUSIONS:** Payers' reliance on PRO data will increase in the next five years, especially in symptomatic conditions without objective measures of success. PRO evidence is valued as a unique predictor of clinical and economic outcomes and as a key element of performance and quality ratings. Respondents showed interest in pharmaceutical companies' increasing use of PROs in clinical trials, creation of real world evidence and supporting PRO education.

PIH47

FOR TWO COMPANIES THE FDA PRO GUIDANCE LEADS TO SIMILAR BUT DIFFERENT MEASURES: A CASE STUDY IN PSORIASIS

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OBJECTIVES: The objective of this research is to evaluate whether the 2009 FDA PRO Guidance leads to development of similar measures when followed by different researchers in the same disease. Psoriasis was selected as a case study, because two companies recently published patient-reported outcome measures to assess the severity of psoriasis-related symptoms: the Psoriasis Symptom Inventory (PSI) and the Psoriasis Symptom Diary (PSD). **METHODS:** Full-length publications related to the development of the PSI and PSD were reviewed. The following information regarding the development process and key aspects pertinent to the PRO Guidance were extracted and compared: patient population, development steps (literature review, involvement of patients during item development), psychometric properties, content of final measure, recall period, response options, and scoring. The authors conducted a qualitative evaluation of the differences between the measures. **RESULTS:** Five publications regarding the development of the measures were identified (PSI, n = 3; PSD, n = 2). Both measures focus on symptoms of moderate to severe psoriasis. Both measures were based on literature reviews, patient input, and expert opinion and had similar psychometric properties. Both measures have a 24-hour recall period. However, the measures consist of different numbers of disease-specific symptoms (PSI = 8; PSD = 6). The PSI consists of 8 items, all of which measure symptom severity. The PSD consists of 16 items (both of symptoms = 8, severity of symptoms = 6, skin color = 1, hiding skin = 1). Additionally, the measures assess symptoms differently. The PSI uses a 5-point Likert scale, while the PSD uses an 11-point numeric rating scale; both measures equate higher scores with greater severity. **CONCLUSIONS:** This example demonstrates that when different experts develop patient-reported outcome measures to assess identical concepts and to align with the FDA PRO Guidance, the result is similar but not identical.

PIH48

SWITCHING IN PART D PRESCRIPTION PLAN: PLAN SWITCHING VERSUS BRAND NAME DRUG SWITCHING

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OBJECTIVES: There is a dearth of evidence on factors influencing prescription plan switching versus switching from brand name drug to generic one. However, either of this switching decision could significantly impact health and wellbeing of Medicare beneficiaries. The objective of the present study was to better understand the relative impacts of individual versus prescription plan level characteristics on both of these switching decisions. **METHODS:** Medicare beneficiaries participated in the 2007 HRS prescription drug survey and 2009 HRS well-being survey and enrolled in Medicare part D (stand-alone), HMO, fee-for-service or Advantage plans. The study sample includes 1298 individuals responded both years surveys. Random intercept multinomial logistic regression model was estimated. **RESULTS:** Only 5% of sample members switched into different prescription plans in both 2007 and 2009, while about 24% individuals switched from brand name drugs to generic product to save prescription drug costs. An outcome variable of interest includes 4 categories: switched into different part D plan, switch from brand to generic drug, thought about switching but did not actually switch and didn't do anything. The main covariates of interest include individual and plan level characteristics. Compared to "didn't do anything" Individuals were more likely to switch to different prescription plan (13%) or switched into generic drug from brand name (25%) if they were using higher number of prescription medications (p<0.04). Individuals having plans with good customer service was 54% less likely to switch into different part-D plan. Compared to "didn't do anything" individuals were 123% more likely to stay on the same plan being not satisfied with the current plan if they experience "inertia" in the plan choice decision. **CONCLUSIONS:** Unobserved plan level characteristics matter in part-D plan switching or drug switching decisions. Consumer inertia and plan's customer service quality appear to be important factors influencing these switching decisions.

PIH49

A CONCEPTUAL FRAMEWORK FOR TRANSLATING PATIENT-REPORTED OUTCOMES FOR IMPLEMENTATION IN CLINICAL PRACTICE AND QUALITY IMPROVEMENT EFFORTS

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OBJECTIVES: As healthcare becomes more patient-centered, patient-reported outcomes (PROs) are assuming a growing role in different aspects of care. Avalere sought to define a conceptual framework on the criteria for defining, implementing, and translating PROs into valid, reliable measures of performance. **METHODS:** Conducted a structured literature review to identify influencers in the translation of PROs, issues that impact translation, and relationships between key variables. **RESULTS:** Various