play response data. Analysis by question, category and demographic descriptor was performed. RESULTS: Twenty-three percent of learners were consistent with the rise in personalized-medicine in the healthcare industry today, addition to the increase in original research publications with "patient-centered" management goals.

In a previous study we found a steep increase in the use of the term "patient-centered" in the published literature from <1 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 core 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 statistical methods. We also noted the number of authors and the number of times this research was used. RESULTS: Our search identified 5051 publications, of which 2222 reported original research, from 1966-2013. Articles in earlier decades tended to be descriptive in nature. Five publications used "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 asser-
tiveness, or 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 same way? (i.e., less anxiety, higher asser-
tiveness)Aims: METHODS: Our objective was to study the impact of using 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 30-item 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 50-72 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 major-
ity of patients had received costly blood tests (81.8%), X-rays (72.7%), and MRU/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 (57.1%)]. CONCLUSIONS: This simple web-based tool was useful in facilitating communication between patients and their HCPs, which led to diagnos-
sis, 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 pharma-
caceuticals METHODS: Double blind, semi-structured telephone interviews with 12 U.S. payers, including: National and regional commercial payers, Accountable Care Organizations, Payers with opportunity to implement specific reporting requirements, 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 perceived 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 PROs 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 for 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 with 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. We examined treatment and manage-
ment goals. RESULTS: 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 outcomes (8 vs 6) also increased significantly 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.

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 decisions may impact cost and patient outcomes. Medicare beneficiaries 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 30-item 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 50-72 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 major-
ity of patients had received costly blood tests (81.8%), X-rays (72.7%), and MRU/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 (57.1%)]. CONCLUSIONS: This simple web-based tool was useful in facilitating communication between patients and their HCPs, which led to diagnos-
sis, receiving new treatments, and better symptom management, even in patients with long-standing healthcare issues, multiple visits, extensive testing, and multiple healthcare providers.

PIH49 A CONCEPTUAL FRAMEWORK FOR TRANSFORMING 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 out-
comers are considered to be among the most important domains in health. In order 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
stakeholders (including researchers, industry, academia, FDA, clinicians, and payers) play important roles in translation. Authors defined four stages in the translation of PROs: issue identification, research, clinical practice, and implementation in quality and performance measurement. Literature revealed that PROs for research purposes must be developed, tested, and evaluated with baseline science standards in mind, such as construct validity, internal consistency (Cronbach’s alpha), test-retest reliability, and responsiveness. In clinical practice, PROs are used in clinical practice subject to additional criteria considering the science behind practicality, interoperability, and timing/mode of administration. At the implementation stage, there is the opportunity to define a particular outcome of process that can be assessed by a PRO. Once rigorously evaluated for scientific acceptability, feasibility of data collection, and other criteria, PRO measures can be implemented in quality reporting or payment programs with established benchmarks.

CONCLUSIONS: Stakeholders are still ironing out the “kinks” of the development, use, and implementation of PROs. Our conceptual framework for PRO translation can provide a starting point for stakeholders interested in applying best practices to the implementation of PROs.

PIHS0
CHOOSING BETWEEN THE PROMIS GLOBAL AND EQ-SDQ FOR COMPARATIVE EFFECTIVENESS RESEARCH: ARE THEY REALLY DIFFERENT?
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OBJECTIVES: To inform the design of comparative effectiveness studies (CER), a head-to-head psychometric comparison of the PROMIS Global and EQ-SDQ instruments is needed. METHODS: In 2013, 2289 US adults completed an online survey including items from the PROMIS Global and Items from the 3 EQ-SDQ versions (EQ-5D-3L, EQ-5D-Y, and EQ-5D-SL) in random order. After testing for unidimensionality across each pair of these 25 items, we conducted 3 separate exploratory factor analyses (EFA) for factors shared between the PROMIS Global and EQ-SDQ version. Next, we performed an item-response-theory (IRT) analysis for factors shared between the 2 instruments. Item levels with insufficient responses (<40%) were collapsed. The reliability and construct validity was assessed by each instrument: was assessed using an unconstrained graded response model. RESULTS: All items were positively correlated (ranging from 0.32 to 0.98). Regardless of EQ-SDQ version, EFA analyses identified 3 factors (eigenvalue > 1): Physical Health (PH), Mental Health (MH), and Quality of Life (QL). Each item uniquely loaded to a single factor after rotation. Unlike PH and MH, QL included only PROMIS items. At a threshold of 0.5 in standard error, the IRT analyses showed similar PH information function ranges by instrument (-0.2 to 2.8 for EQ-5D-SL vs. -0.2 to 2.4 for PROMIS Global). However, the MH information range for EQ-5D-SL was substantially narrower than the range for the PROMIS Global (0.3 to 2.4 vs. -0.8 to 2.8). CONCLUSIONS: The PROMIS Global includes 5 items that extend the measurement of general health beyond the 2 factors shared with the EQ-5D-SL. When comparing the remaining 5 items of the PROMIS Global to the EQ-SDQ, the instruments appear to share information ranges in PH, but the PROMIS Global has a broader MH range than the EQ-SDQ. These similarities and differences are important considerations when choosing between the PROMIS Global and EQ-SDQ for CER.

PIHS1
IMPACT OF SYMPTOMATIC BURDEN AMONG WOMEN DIAGNOSED WITH UTERINE FIBROIDS ON HEALTH-RELATED QUALITY OF LIFE: AN ASSESSMENT USING UTERINE FIBROID SYMPTOM AND QUALITY OF LIFE QUESTIONNAIRE (UFS-QOL)
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OBJECTIVES: Uterine fibroids (UF) are associated with significant reduction in health-related quality of life (HRQL). The impact of UF symptoms is complex when compared to HRQL, using a disease-specific instrument, the UFS-QOL. METHODS: An online survey of US women between 18 and 54 years was conducted using 3 large respondent panels as a sampling frame. Data collected included demographics, UF prevalence, symptoms, HRQL and health-related productivity. Descriptive statistics were used to examine the impact of symptom presence, symptom severity, bothersomeness, and number of UF-related symptoms on multiple domains of HRQL. Analyses were weighted to match the population distribution of age, education, region, and household income of US female population. RESULTS: 59,411 (15.5%) of the panel members who were contacted completed the prevalence screener; 5,879 met inclusion criteria for survey completion. Of those, 1,197 had UF and had hysterecomy. Mean age was 42.65 years; 62% were white, 62% were married or in a civil union. Among the most common symptoms experienced in the past 4 weeks, at least 49% rated each symptom as at least “moderate” severity and >87% rated a symptom as at least “somewhat bothersome”. Mean UFS-QOL subscale scores were significantly (p<0.05) worse among women who reported each UF symptom versus women in whom the symptom was absent. In particular, the presence of bleeding and also non-bleeding symptoms (pelvic pressure, low back pain, abdominal pain, bloating, and fatigue/weakness/anemia) was related to worse UFS-QOL subscale scores. Women who rated their UF symptoms as severe had significantly (p<0.001) worse UFS-Qol scores versus women with mild or moderate UF symptoms. In addition, higher subscale scores were worsened as the number of UF symptoms increased. CONCLUSIONS: HRQL among women with UF was significantly impacted by UF-related symptoms. A more pronounced impact was observed as the number and severity of symptoms increased.

PIHS3
COMMON CHRONIC CONDITIONS, DISABILITY AND PERCEIVED HEALTH: EMPIRICAL SUPPORT OF A CONCEPTUAL MODEL
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OBJECTIVES: A predominant Health-Related Quality of Life Model (described by Wilson, 2016) proposes a sequential relationship from biological and physiological variables to perceived health and overall quality of life. We assessed the extent to which disability mediates the association between mental and physical conditions with perceived health. METHODS: Data come from the WHO World Mental Health Surveys but 22 countries (n = 1,344 respondents, 72.0% response rate). We assessed 9 common mental disorders with the WHO Composite International Diagnostic Interview v3.0 (CID), and 10 chronic physical with a checklist. Perceived health (PH) in the previous 30 days was assessed using a numerical scale (from 0, worst, to 100, best). Disability was assessed using a modified WHO Disability Assessment Schedule 2.0 (WHODAS). Path analysis and multigroup techniques were used to estimate total effects of physical and mental conditions on self-rated health and their direct and indirect (through the latent and observed WHODAS dimensions) effects. RESULTS: 12-month prevalence was 14.4% for any mental and 51.4% for any physical condition. Disability was correlated with any mental and 31.7% had both mental and physical disability. 11.4% with Morbidity and 8.3% with Stigma. Overall mean Perceived Health (PH) scores was 81. The model explained 36% of PH score variance and estimated a significant score decrement of 8.5 for individuals with a mental disorder and -8.2 for those with a physical condition. Of those decrements, 7.3% (mental) and 59.0% (physical) were “indirect” effects (i.e., mediated by disability). Mediation importance of disability differed by mental and physical conditions. CONCLUSIONS: A large proportion of the decrement in perceived health associated with common conditions is mediated by disability. Disability mediation patterns are different for mental and physical conditions. These data support the validity of the Health-Related Quality of Life Model.

PIHS4
HEALTH RELATED QUALITY OF LIFE IN PATIENTS USING COMPLEMENTARY ALTERNATIVE MEDICINE (HOMEOPATHY) IN QUETTA, PAKISTAN
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OBJECTIVES: To evaluate the health related quality of life among patients using complementary Alternative Medicine (homeopathy) in Quetta, Pakistan. METHODS: A cross sectional, descriptive study was undertaken among the patients visiting three major homeopathic clinics in Quetta City, Pakistan. Health related quality of life was assessed using the EQ-5D (EuroQol). Descriptive analysis was used to elaborate patients’ demographic characteristics while inferential statistics were all statistically significant. The mean EQ-5D descriptive score and EQ-VAS score were 0.59 ± 0.22 and 60.19 ±16.9 respectively. CONCLUSIONS: Homeopathy is slightly low then Health related quality of life of general population of Quetta. This study provides baseline assessment for the health status of patients using homeopathy and the results could be applied in clinical practice.

PIHS5
IMPACTING PERSONALIZED MEDICINE TEST ADOPTION: EVALUATING PATIENT PREFERENCES AND WILLINGNESS TO PAY
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OBJECTIVES: Personalized medicine tests (PTM) are increasingly available in the healthcare marketplace. The diffusion of such technologies is in part a function of the expressed preferences of patients, providers, and payers. The objective of this study was to identify the attributes of PTMs most important to patients and thus likely to impact individual decisions and population level adoption. METHODS: We used a mixed methods study design to identify the attributes of PTMs that impact patient decision-making. We recruited patients with and without prior PTM experience to participate in focus groups and interviews via flyers, provider contacts, and disease support groups. Patients completed an attributes ranking exercise and a payment card scenario to estimate willingness-to-pay (WTP) for PTMs. Analysis of transcripts was performed using thematic coding, analysis of attribute ranking used a rank-ordered logit model, and payment card data was conducted using interval regression. RESULTS: We contacted 32 patients of which 20 ultimately participated (focus groups: 16; interviews: 6). Analysis of the attribute rankings indicated that the most important attributes were: 1) ability to select the appropriate treatment, 2) benefit to family members, and 3) quality of life after testing. The rankings for these characteristics were all statistically significant. The average willingness-to-pay for a PTM was $1,528 (95%CI: $361-$2,694). Patients making less than $25K/year had a statistically significant lower WTP ($373) compared to the population average. CONCLUSIONS: Patients showed a strong preference for the ability to select the appropriate treatment based on test results as well as the impact of test results on their family and their quality of life. Patients were willing to pay more than typically required in an insured population but less than the full cost of some commonly used PTMs. This work will ultimately be used to inform the development of a discrete choice experiment.

INDIVIDUAL’S HEALTH – Health Care Use & Policy Studies

PIHS6
IMPACT OF PEDIATRIC REGULATION ON AVAILABILITY OF NEONATE DRUG INFORMATION
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