OBJECTIVES: The purpose of this study was to explore the interrelationship between intentional and unintentional non-adherence via a–v patients’ medication beliefs and intentions. We conducted a cross-sectional online national survey of pharmacy patients on medications for asthma, hypertension, diabetes, hyperlipidemia, osteoporosis, or depression from the Harris Chronic Disease Panel. A total of 24,071 adults self-identified themselves as currently persistent to prescription medications for their index disease. They answered three questions on unintentional non-adherence, 11 questions on intentional non-adherence, and 20 questions assessing their beliefs about the index medication, which generated multi-item scales assessing perceived medication need (k=10), perceived concerns (k=6), and perceived affordability (k=4). The regression approach proposed by Baron and Kenny was used to test the mediational effect of unintentional non-adherence on the relationship between medication beliefs and intentional non-adherence. Bootstrapping was also employed to confirm the statistical significance of these results.

RESULTS: It was hypothesized that the effect of medication beliefs (perceived need, concerns, and affordability) on intentional non-adherence is mediated through unintentional non-adherence. The four conditions outlined by Barron and Kenny for a variable to be considered as a mediating variable were satisfied. The three medication beliefs had a significant direct effect on unintentional non-adherence. The direct effect of unintentional non-adherence on intentional non-adherence was significant as was the total effect of medication beliefs on intentional non-adherence. The impact of medication beliefs on intentional non-adherence was reduced after controlling for unintentional non-adherence. The statistical significance of the mediational relationship was confirmed using the bootstrapping procedure with 5,000 samples.

CONCLUSIONS: The new instrument will be more effective in patient to discontinue therapy and proactively address suboptimal medication beliefs that might ultimately lead the patient to discontinue therapy.

PRM25

PSYCHOMETRIC COMPARABILITY OF SINGLE ITEM AND GRID FORM ADMINISTRATION OF THE SF-36V2™ HEALTH SURVEY

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OBJECTIVES: Over the past two decades use of the traditional paper-and-pencil survey has waned as options for electronic data collection have been shown to be rigorous and more cost-effective. Although research supports equivalence of paper and electronic administration modes, evidence examining the impact of changes in item format required to accommodate small format electronic devices is lacking. This study examined the impact of a single item (SI) presentation versus grid display (GD) for score equivalence, measurement properties and adherence to the conceptual framework of the SF-36v2.

METHODS: The SF-36v2 standard recall format was electronically presented as part of a US national norming study. Survey results from SI (N = 2037) and GD (N = 2003) administrations were then scored. ANCOVA models compared SI and GD scale scores. A Multi-trait Analysis Program (MAPR) and principal components analysis (PCA) were used to examine the measurement properties and test the conceptual framework of SI and GD data.

RESULTS: Mean scores for the SI and GD conditions revealed small differences between SI and GD on seven scales (all p < 0.01). Mean differences (43 to 1.42), however, failed to reach the minimal clinically important difference of 3 points indicating relative equivalence. MAP-R analyses showed that, for both item formats, SF-36v2 items had excellent convergent validity with their hypothesized scale (r > 0.4) and each item correlated higher with its hypothesized scale than with others (divergent validity). PCA results showed that the hypothesized two-dimensional structure of physical and mental health was evident in both formats as the pattern of correlation between scales and principal components was consistent with a priori hypotheses and the two components explained the majority of variance in the eight scales (>75%).

CONCLUSIONS: Single item presentation, which separates items from the contextual cues of their traditional grid format, results in scores and measurement properties consistent with GD, and maintains the underlying conceptual framework of the SF-36v2.

PRM26

IMPACT OF A WEB PORTAL TOOL ON DRIVING PATIENT ADHERENCE

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OBJECTIVES: To determine the value of a web portal by quantifying the differences in medication adherence between web-users and non-web-users. A web-based patient case-study design was employed for this study. Prescription records from a de-identified pharmacy claims database maintained by a large pharmacy benefit manager were obtained between April 1st 2009 to March 31st 2010. The test group consisted of patients who filled their prescriptions via a web-based portal. Patients who were enrolled in similar health plans but never used the web portal but filled their prescriptions comprised the control group. All eligible patients included in this analysis were continuously enrolled during the study period. Differences in medication possession ratio (MPR), defined as the sum of days that patient possessed any maintenance medication divided by the total number of days in the follow-up period, was calculated during the observation period and compared using a paired t-test. Additionally, MPRs for the Top 10 therapeutic medication classes were computed and compared across test and control group. RESULTS: A total of 2,333,635 eligible patients were included in the study. Among them 53,018 patients met the criteria for the test group and 2,280,617 patients were in the control group.

Overall mean MPR for the test group was found to be significantly higher (0.48 vs 0.37) as compared to the control group (p < 0.05). Additionally, across all the Top 10 medication classes, the test group patients mean MPR was significantly higher than that of the control group patients. CONCLUSIONS: Patients, who filled their prescriptions via the web portal, have higher adherence rates as compared to those who do not choose this channel to fill their scripts. Further studies aimed at evaluating key drivers for the differential adherence rate are required to gain additional insights about the importance of web-portal as a tool for refilling prescriptions.

PRM27

METHODOLOGICAL DIFFERENCES IN EQ-5D SCORING SYSTEMS: A SYSTEMATIC REVIEW AND META-ANALYSIS

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OBJECTIVES: The EQ-5D is one of the most widely used instruments to estimate utility values. The scoring system of the EQ-5D were developed from valuation studies, which estimate a scoring function for each EQ-5D health states based on the general population’s preference for a subset of health states. Due to the wide...
spread use of the EQ-SD a number of country-specific scoring systems have been
developed. The objective of this study was to identify and compare all existing
EQ-SD valuation studies and country-specific scoring systems. METHODS: An
electronic search of MDLINE, EMBASE, NHS LEd, HEED and a search through the past
ten proceedings of the Euroqol group up to September of 2010 was conducted to iden-
tify all EQ-SD preference elicitation studies. The review included a summary and
comparison of study design, model estimation, study demographics and scoring
function. RESULTS: After screening 2940 citations identified from the literature
search, 33 elicitation studies that contained a unique scoring system were included
for final review. The key areas of divergence between the studies include: differ-
ences in methodology used to directly value health (i.e. SG, TTO, etc.), the number
of health states that were directly valued, the transformation of the directly valued
health states, the statistical methods used to derive the scoring system, and
the model variables included in the scoring system. CONCLUSIONS: Differences in
methodology used to directly value health, and knowing the extent, and how
identical methodological differences can explain the variation, will help deter-
mine whether a global preference for health exists.
PRM3
TAKE TIME TO TRAIN: EVIDENCE TO SHOW THAT PATIENT TRAINING
IN ELECTRONIC PATIENT REPORTED OUTCOMES IS BENEFICIAL
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OBJECTIVES: To establish the concept that it is best practice to provide training to
patients on how to utilize electronic patient reported outcome (ePRO) systems
which will reduce error rates before study participation. METHODS: Methods on how to ap-
proach training patients on ePRO systems will be presented and recommendations
will be discussed. To provide supporting evidence and information on best prac-
tices used in ePRO, a literature review was conducted to identify articles reporting
on studies that utilized ePRO. Of that, articles were identified that reported provid-
ing training to their patients on the ePRO portion of the study prior to participation.
Rates of ePRO compliance are examined and approaches to training patients are
identified within the articles. RESULTS: Out of the 115 articles identified using
ePRO, 55 (47.8%) reported providing ePRO training to their patients. ePRO compli-
ance of studies with patients trained was 85.08% (Standard Deviation: 9.83). Training methods reported included: training session, pro-
viding demonstration, giving instruction, question/answer session, subject
hands-on practice, written instructions/referential material, and testing of mastery
on studies that utilized ePRO. Duration of training ranged from 1 minute to 2 hours.
CONCLUSIONS: Best practice for training patients is to have a combination of the
methods reported above. Having available a dummy system for training is most
important so that demonstration can be provided, patients can practice using the
system and patients can see exactly what they need to do during their actual study
participation. Questions can be addressed and patients can begin the study with a
clearer understanding of what to do during participation. Training patients allows
for higher comfort levels in use of system, thus alleviating frustration and burden.
Furthermore, when patients are trained, they require less training throughout the
duration of the study. Overall, training patients will lead to better experiences for
patient participation.
PRM4
EVALUATING THE SCREENING ABILITY OF PATIENT-REPORTED OUTCOME
INSTRUMENTS
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OBJECTIVES: Assessments composed of patient-reported outcome (PRO) measures
can be used in health care settings as screens for various conditions. The objec-
tive of developing and using a PRO screening measure may be to quickly identify
patients who are likely to have a formal diagnostic screening. Alternativ-
ely, the development objective may be to avoid unnecessary diagnostic proce-
dures, particularly when these are time or resource-intensive or invasive in nature.
The PRO screener may also be administered to simply rule out the existence of a
particular condition. The evaluation of a PRO screening assessment ideally occurs
through analyses using a “gold standard” diagnosis of the condition of interest.
METHODS: A number of existing statistical and psychometric methods may be
used in such an evaluation, including sensitivity and specificity, positive and neg-
ative predictive value, kappa, qualitative comparisons with the currently ac-
cepted standard, and other measurement properties. The objective of this study
was to compare various fibromyalgia screening instruments with the currently ac-
cepted standard diagnosis for fibromyalgia, namely the American College of
Rheumatology 1990 diagnostic criteria (Wolfe et al., 1990).
RESULTS: Using the example application, we illustrate the pros and cons of a battery of statistical
methods and how they can be used to select the “best” candidate screener.
PRM5
DEVELOPMENT OF A CONCEPT LIST TO ENSURE COMPARABLE CONTENT
VALIDITY BETWEEN ORIGINAL PRO QUESTIONNAIRES AND THEIR
TRANSLATIONS: A REVIEW OF 15 YEARS OF LINGUISTIC VALIDATIONS
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OBJECTIVE: In its guidance on the use of PRO measures, the FDA recommends that the
content validity of PROs and other measurement properties are adequately similar across
all versions used in a clinical trial. One way to ensure the comparability of content is to ensure that all
translations reflect the original item intent. As this presupposes the existence of a formal description
of each item concept, it is the objective of this study to investigate if this was the
case prior to the guidance publication and to make recommendations on the basis of
our findings. METHODS: The research is based on the review of PRO translations
performed between 1995 and 2009. RESULTS: A total of 640 questionnaires (27 generalized
Disease and 40 disease- or condition-specific) were transalted. All were developed
before the publication of the FDA’s PRO guidance. None had a formal written doc-
ument listing a definition of each item concept and possible translation alterna-
tives available before launching the translations. In all cases, the item-by-item
comparison of the list of translation alternatives were developed in collaboration
with the developers of the original questionnaires during the translation process.
In some cases (multiple projects involving different languages for the same ques-
tionnaire), the development of the concept list was a dynamic process fed by ques-
tions raised at each new translation [e.g. Quality of Life in Inflammatory Bowel