Methods & Measures

Q*UALI*TY Makes No Sense without "U" and "I": Building Consensus around Quality via a Modified Delphi Process

Robert A. Bechtol, M.S.
Graduate Student
University of Minnesota
College of Pharmacy
308 Harvard Street SE
Minneapolis, MN 55455
becht080@umn.edu

Kristin K. Janke, Ph.D.
Professor
University of Minnesota
College of Pharmacy
308 Harvard Street SE
Minneapolis, MN 55455
janke006@umn.edu

ABSTRACT
Introduction: The Delphi process is a methodological technique that collects opinions and works to reach consensus through multiple rounds of inquiry with an expert panel. This technique was used to define quality for team-based learning (TBL) application activities.
Objective(s): 1) To describe the decision points in designing a Delphi process, such as expert recruitment, 2) to illustrate the value of a Delphi process in defining quality through an instruction-related example.
Methods: Decisions were made for: preliminary panelist identification, panelist screening, desired consensus level and methods for verifying the panelist's work. Panelist recruitment occurred via the pharmacy TBL peer reviewed literature. Authors were emailed an online screening survey. Inclusion criteria were used to select expert panelists. A two-round, modified Delphi process was conducted using a web-based survey program. Quality indicator statements were generated from themes in the panelists' comments. Consensus was set at 80% strongly agree/agree.
Results: In the instruction-related example, twenty-three panelists met the inclusion criteria. In Round 1, panelists responded to five open-ended questions about successful learning application activities for TBL. Round 2 resulted in the consideration of sixteen (16) quality indicators arising from panelist comments, with 14 achieving consensus using a 4-point agreement scale.
Discussion/Conclusion: Building consensus takes a collaborative approach (i.e. U and I). In the Delphi technique, panelists provide expert input. Researchers analyze that input, relaying it back to the panel for consideration and voting. Successive rounds of inquiry can be used to reach desired levels of consensus.
Implications: The Delphi technique is a valuable method for collecting expert input and defining quality. It has several benefits over focus groups: 1) all voices can be heard, 2) members are represented more equally through anonymous reporting without concern of power struggles, extreme assertiveness and exclusion of others, and 3) opinions can evolve over time, as the panel considers reports summarizing results.

Keywords: Delphi; team-based learning; quality; application activities

Theoretical and Empirical Analysis of Alternative Scoring Functions for the EQ-5D-5L

Ruixuan Jiang, PharmD
PhD Candidate
833 S. Wood Street, Room 246, MC 871, Chicago, IL
60612
rjiang2@uic.edu

You-Shan Feng, PhD
Research Associate
Institute for Community Medicine, Medical University
Greifswald
Dept. Methods in Community Medicine Walther-
Rathenau-Str. 48
17475 Greifswald Deutschland
you-shan.feng@uni-greifswald.de

Thomas Kohlmann, PhD
Professor and Department Head
Institute for Community Medicine, Medical University
Greifswald
Dept. Methods in Community Medicine Walther-
Rathenau-Str. 48
17475 Greifswald Deutschland
thomas.kohlmann@uni-greifswald.de

A. Simon Pickard, PhD
Professor
Director of Graduate Studies, Department of Pharmacy
Systems, Outcomes and Policy
Director of Graduate Education, College of Pharmacy,
Assistant Director, Center for Pharmacoepidemiology
and Pharmacoeconomic Research
University of Illinois at Chicago
833 S. Wood Street, Rm 254, MC 871, Chicago, IL 60612
pickard1@uic.edu

ABSTRACT

Background: In settings other than economic evaluation, psychometric methods of summarizing the EQ-5D-5L may be more appropriate than preference-based economic methods. This study aims to systematically evaluate psychometric methods of scoring the EQ-5D-5L.

Methods: The analyses followed four general approaches to rationalizing and conceptualizing item grouping and scoring: 1) confirmatory factor analyses (CFA), which modelled the five items on one latent factor, 2) 'internal' Multiple Indicators, Multiple Causes (MIMIC), which conceptualized some EQ-5D items as causal and others as reflective indicators of one latent factor, 3) linear regression using the five items as independent predictors of a range of HRQoL scales (4) 'external' MIMIC, which conceptualized all EQ-5D-5L dimensions as causal indicators and self-assessed health scales as the reflective indicators. These analyses were carried out in nine EQ-5D-5L datasets in order to examine the robustness of the results.

Results: CFAs showed moderately well-fitting models with a one-factor solution with high factor loadings for all items. Internal MIMIC showed the best fitting model defined MO, AD and, PD as causal indicators and SC and UA reflective indicators. Linear regression found that all items except for SC were important predictors of other measures, with the best explanatory power for the physical component score (PCS) of the SF-36/SF-12 (R^2 0.300 to 0.732) and the poorest for VAS (R^2 0.173 to 0.539). Standardized coefficients of the external MIMIC generally reflected the regression model results. The regression and external MIMIC results did not differ across gender, education and disease subgroups; however, model fit was poor in healthy populations.

Discussion: We explored a rich set of psychometric approaches to summarize the EQ-5D-5L, finding important insights about the structure of the five items and their relationship to self-assessed health measures. No single approach was the best for psychometric scoring, and more detailed analyses must be undertaken.

Keywords: psychometric scoring, EQ-5D, health measurement

Is Self-Rated Health of Americans Different in 2017 Compared to 2002?

Ashley S. Cha, BA[1], Ernest H. Law, PharmD[1], James W. Shaw, PharmD, PhD[2], A. Simon Pickard, PhD[1]

[1]Department of Pharmacy Systems, Outcomes and Policy, College of Pharmacy, University of Illinois at Chicago, Chicago, IL, USA;
[2]Bristol-Myers Squibb, Princeton, NJ, USA

ABSTRACT

Introduction: A key indicator of population health and well-being is self-rated health. Although there are many factors that may contribute to aggregate health indicators, comparing self-related health of Americans may provide insight into the well-being of the nation.

Objective: We aimed to compare self-rated health of the US adult populations in 2002 and 2017.

Methods: Data from two US EQ-5D valuation studies conducted in 2002 and 2017 were combined. In both studies, respondents completed the EQ-5D-3L self-classifier and visual analogue scale (VAS), where health is rated from 0 (worst imaginable health) to 100 (best imaginable health). To account for differences in cohort characteristics, ordinary least squares regression models adjusted for sociodemographic characteristics, presence of disease, and self-reported problems in EQ-5D dimensions, defined as any/no problems.

Results: The proportion of respondents in 2002 (n=3,728) vs. 2017 (n=1,047) reporting VAS scores of 100 (13.4% vs. 13.0%) or 90-99 (40.0% vs. 41.6%) were similar. No differences in mean VAS scores were observed between respondents in 2017 (84.6 [SD=14.5]) and 2002 (84.4 [SD=16.1]). Adjusting for sociodemographic characteristics and presence of disease had negligible effects. However, upon adjusting for problems on each EQ-5D dimension, mean 2017 VAS scores were significantly higher than 2002 (89.8 vs. 87.6; mean difference=2.2 [SE: 0.43; 95% CI: 1.36-3.10]).

Discussion/Conclusions: Self-rated health of the general US adult population in 2017 was very similar to 2002, although slightly higher in 2017 adjusting for health problems. This suggests that adult American rates their health as slightly better compared to 15 years ago.

Implications: Health indicators at different points in time may capture both observed and unobserved factors that can affect population health perceptions. Changes in the self-rated health of the "average" adult American may be important in informing population-level health monitoring and action. Future research should examine whether stated preferences for health have also differed between time periods.

Key words: Health status, population health, visual analogue scale, EQ-5D

Development of an Instrument to Assess Academic Detailer's Experience with Academic Detailing Visits

Christopher D. Saffore, PharmD
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood Street (MC 871), Chicago, IL 60612
csaffo3@uic.edu

Andrea Monteiro, MSc
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood Street (MC 871), Chicago, IL 60612
amonte38@uic.edu

Mary Smart, PharmD
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood Street (MC 871), Chicago, IL 60612
msmart5@uic.edu

Aleksandrina Ruseva, PharmD Candidate
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood Street (MC 871), Chicago, IL 60612
arusev3@uic.edu

A. Simon Pickard, PhD
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood Street (MC 871), Chicago, IL 60612
pickard1@uic.edu

Todd A. Lee, PharmD, PhD
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood Street (MC 871), Chicago, IL 60612
toddlee@uic.edu

ABSTRACT

Introduction: Academic detailing (AD) can be an effective method to impact clinical decision-making and prescribing behavior. When conducting AD visits, an understanding of the effectiveness of a visit based on an academic detailer's experience and perception of the quality of the interaction with the provider may help to guide and refine future AD visits and evaluate AD programs.

Objective: To develop a measure that assesses the perceived effectiveness of AD visits on appropriate prescribing based on the academic detailer's experience with the provider.

Methods: A broad review of existing literature was performed to retrieve studies published until April 2018 that included an evaluation of AD and educational outreach interventions in conjunction with the academic detailer's experience and perception of the quality of the AD visits. Relevant themes and constructs were elucidated with input from an expert panel, and items were generated to represent each construct, with an emphasis on parsimony (i.e. one-minute completion time). An initial version of the measure was evaluated by external content experts for relevance and subsequent input was provided by internal content experts on the wording of specific items and response scaling options. A pilot version was formatted, generated, and tested in the field. Psychometric analysis will be performed, including factor analysis and examining construct and criterion validity with related measures (i.e. prescriber satisfaction and opioid prescribing metrics).

Results: Themes identified in the literature and existing measures included: acceptability, feasibility, usefulness, relevance, and effective communication. Initially a five-item instrument was generated and consultation with content experts led to an additional item related to prescriber willingness or readiness to change to the instrument. Field testing is currently underway.

Conclusion: A six item measure was developed to assess academic detailer's experience with AD visits. Further evaluation of validity and reliability are future steps.

Key words: Academic detailing, experience, instrument development

Development of an Instrument to Assess Prescriber's Satisfaction with an Academic Detailing Intervention

Andrea L. Monteiro, MSc
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood St. (MC 871), Chicago, IL 60612
amonte38@uic.edu

Christopher D. Saffore, PharmD
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood St. (MC 871), Chicago, IL 60612
csaffo3@uic.edu

Mary Smart, PharmD
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood St. (MC 871), Chicago, IL 60612
msmart5@uic.edu

Sarette Tilton, PharmD Candidate
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood St. (MC 871), Chicago, IL 60612
stilto2@uic.edu

Todd A. Lee, PharmD, PhD
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood St. (MC 871), Chicago, IL 60612
toddlee@uic.edu

A. Simon Pickard, PhD
Department of Pharmacy Systems, Outcomes and Policy
College of Pharmacy, University of Illinois at Chicago
833 South Wood St. (MC 871), Chicago, IL 60612
pickard1@uic.edu

ABSTRACT

Introduction: Academic Detailing (AD), an educational outreach strategy to provide clinicians with current evidence-based information, has been demonstrated to change prescribing behavior. The effectiveness of AD is associated with overall prescriber satisfaction, but typically single item measures are used. There is a need to for an instrument to more comprehensively measure satisfaction.

Objective: To develop a new measure to assess prescriber's satisfaction with an AD intervention.

Methods: A structured literature search was conducted using key words related to prescriber's satisfaction with AD and educational outreach. In addition, measures of satisfaction were identified and reviewed. After identifying relevant themes and constructs, candidate items and response scaling options were generated. An expert panel reviewed the items for content validity and wording. A pilot version was formatted. Psychometric analysis will be performed, including factor analysis and examining construct and criterion validity with related measures (i.e. measure of detailer's perception of the intervention effectiveness and opioid prescribing metrics).

Results: The themes identified included: acceptability, feasibility, usefulness, perception of efficacy, overall satisfaction with the quality of the visits, and willingness to repeat the experience. From these constructs, eight initial items were developed. After the expert panel consultation, two items related to prescriber willingness to change were added. The measure is currently undergoing field testing.
Conclusion: The current version of the instrument encompasses 10 items covering the 7 themes. Future steps will include the assessment of the Psychometric characteristics of the measure, as for instance, reliability, construct validity and the factor structure. It is hoped that the final version of this measure will generalize to broad use as an evaluative tool for AD.

Key words: Academic detailing, satisfaction, instrument development

Medication Hoarding Behaviors Scale (MHBS)

SuHak Lee, PharmD
Graduate Student
University of Minnesota
College of Pharmacy
308 Harvard Street SE
Minneapolis, MN 55455
leex6829@umn.edu

Donald L. Uden, PharmD
Professor
University of Minnesota
College of Pharmacy
308 Harvard Street SE
Minneapolis, MN 55455
udenx001@umn.edu

ABSTRACT

Introduction: An estimated 2 – 5% of the US population are affected by the hoarding disorder, and according to a national survey, 20.6% of the population have difficulty discarding worthless items. It is suspected that medication hoarding behaviors are prevalent but research regarding this topic is scant. The Medication Saving Behaviors (MSB) scale for older adults, assessing family caregiver perspectives, has been developed based on a general measurement scale for compulsive hoarding (Savings Inventory-Revised (SI-R)). Nevertheless, many patients care for themselves, and the scale would have limited application. In order to analyze medication hoarding behaviors more extensively, a scale that assesses in first-person behaviors is needed.

Objective: To develop an exploratory and pilot a patient-administered Medication Hoarding Behaviors Scale (MHBS) and examine its reliability and validity

Proposed methods: An MHBS will be developed based on the SI-R and administered to adult participants 18 years or older recruited from local MN community pharmacies. Based on the responses, a factor analysis will be performed, and validity and reliability will be assessed. The previous study for the MSB scale has examined the number of leftover or expired medications for convergent validity, and the total number of prescribed and over-the-counter medications for discriminant validity. In order to assess the criterion validity, the SI-R and the Hoarding Rating Scale-Analogue (HRS) have been utilized. For the internal reliability, the literature has utilized Cronbach's alpha.

Key Words: Medication hoarding, medication management, assessment scale