into the process as appropriate. RESULTS: Two main linguistic and conceptual issues emerged during the translation process. Firstly, when an original item used more than one adjective to cover a single concept, some languages had only one term to express this. Secondly, there was the challenge of using culturally appropriate expressions for taboo concepts such as suicide and self-harm, to ensure homogeneous response across all languages. CONCLUSIONS: The language versions of the GAD-7 and PHQ-9 were established according to a rigorous standardized methodology to facilitate international comparison and pooling of data. The linguistic validation process aims to ensure conceptual equivalence across different language versions on the basis of a pre-defined concept list explaining what the original instrument should measure. The process as a whole supports the advantage of integrating international feedback on concepts and wording during the development of questionnaires.

EVALUATION OF GLP-1 PRODUCT ATTRIBUTES IN TREATING PEOPLE WITH TYPE-2 DIABETES IN US: COMPARING TIME-MATCHED AND WEASEL PREDICTED RESPONSES TO PREFERENCE SURVEYS: Insights into improving the validity of health utility scores

PM070

Zumrut E1, Connor C1, Polster M1, McDonald S1, Hammer M1

OBJECTIVES: To assess patient utilities for cost utility analyses in health economics two different ways of revealing preferences have been compared. Time trade-off (TTO) and willingness-to-pay (WTP) surveys have been completed comparing patients’ preference in product propositions. TTO yields estimates of the amount of time that patients perceive forego to achieve preferred product attributes whereas WTP yields estimates of the amount of money that patients are willing to pay for product attributes. Despite their widespread use, results of the two methodologies have not, to our knowledge, been compared directly in diabetes.

METHODS: The two methods were used to evaluate the reactions of people with type-2 diabetes in two GLP-1 injectable diabetes drugs that varied on four product attributes: controlling blood glucose (measured by HbA1c), dosing frequency (twice-daily vs. once-daily), incidence of hypoglycemia, and incidence of nausea. To maximize statistical power and allow comparisons across patient groups, a large internet-based survey (more than 500 respondents) was conducted in U.S. with four categories of self-identified patients who were sampled based on their medication history, and randomly assigned to either the TTO or WTP. RESULTS: Results suggest that the WTP methodology yields greater face validity and sensitivity than TTO (100% of respondents prefer the superior profile in WTP vs. 96% in TTO). Data from joint analysis designed to establish the importance of each of the four product attributes in the decision-making process used by patients reveal similar patterns of results for the two methodologies. CONCLUSIONS: Regardless of whether patients were in the group assigned to TTO or WTP, patients perceive efficacy (HbA1c control) to be the most important product attribute, followed by incidence of nausea. Patients evaluated the incidence of hypoglycemia and dosing schedule as less important relative to the HbA1c control and nausea in the decision-making process.

QUALITY-ADJUSTED LIFE YEARS SAVED BY PREVENTION OF HEAD INJURY THROUGH ENFORCEMENT OF HELMET LAW

PM181

Lui HT1, Chang-Ho YK1,2
1National Taiwan University Hospital, Taipei, Taiwan; 2University of Michigan, Ann Arbor, MI, USA

OBJECTIVES: To evaluate the potential long-term health impact of helmet law, we calculated the life quality-adjusted life year (LQALY) under different proportions of helmet wearing among the motorcyclists. METHODS: The quality-adjusted life expectancies for helmeted and non-helmeted motorcyclists were estimated by adjusting the survival function based upon the Head Injury Registry with quality of life measures assessed under the EQ-5D questionnaire. We took Hualien County, where a lower rate of helmet wearing (77%) was reported, as an example to calculate the expected numbers of prevented head-injured cases by multiplying the population at risk with the incidence rate of head injury for helmeted and non-helmeted motorcyclists. As different proportions of helmet-wearing and different proportions of full face helmet in motorcyclists were assumed, the expected numbers of prevented cases were calculated, which were multiplied with the loss of QALY of an average case to predict the potential benefit of helmet use. RESULTS: Under the current proportion of helmet wearing, the annual loss associated with head injured was $34,649 QALYs in Hualien County. If the proportion of helmet wearing could be increased to 100%, the health benefit saved was estimated 1434.3 QALYs. If 80% of them used full face helmet, the total gain was increased to 2500 QALYs. CONCLUSIONS: The health benefit of helmet protection for head injury can be determined under units of quality-adjusted life year (QALY) and directly applied in future cost-effective analyses for public health policy.

MEANINGFUL VERSUS USEABLE RESPONSES TO PREFERENCE SURVEYS: INSIGHTS INTO IMPROVING THE VALIDITY OF HEALTH UTILITY SCORES

PM075

Vnvansev E1, Fransei LA2
1Wroclaw University of Medical Sciences, Wroclaw, Poland; 2University of Michigan, Ann Arbor, MI, USA

OBJECTIVES: To identify the types of and reasons for usable preference survey responses with the goal of informing improvements in health utility assessment methodology. METHODS: We define typologies that represent usable responses from health utility surveys; present evidence from the literature on the frequency of such responses; present empiric data on the rationale for such types of responses; and discuss methods for handing data that contain such responses, and implications for interpreting analytic results based on health utility data. RESULTS: Potentially unusable health utility survey responses include (1) illlogical, (2) inconsistent, (3) invariant, and (4) "protot" responses, plus (5) and (6) "events". These responses may reflect misinterpretations or misunderstandings of the survey task, which introduce noise into results, or they may be intentional responses to the parameters of the survey task that may confound respondents’ other values with the value of the health state being assessed. Unusable responses can be avoided through anticipation and careful design of surveys, instruments, particularly for specific populations and health states, including cognitive testing prior to fielding. Unusable responses can also be omitted from analyses or analyzed separately. CONCLUSIONS: Usable health utility survey responses challenge the validity of utility estimation and all analyses that incorporate these values, so it is critical to minimize these responses. Mechanisms to correct errors are useful, but may not address true preferences that are in response to elements of the measurement task and hence will not be corrected. Correction mechanisms may include tailoring the task to particular situations when bias is anticipated, such as parental valuations of children's states or individuals who express religious beliefs. Recognition of the prevalence of unusable data in health utility data sets and identifying methods for handling these errors is essential to understand the accuracy and precision of results and analyses that depend thereon.