



# THE 7TH MEETING OF THE INTERNATIONAL ACADEMY OF HEALTH PREFERENCE RESEARCH

## PRE-MEETING SYMPOSIUM

FRIDAY, 3 NOVEMBER 2017  
FROM 13:00 TO 17:00

### GTG GLASGOW

1330 SOUTH STREET  
GLASGOW G14 OBJ  
SCOTLAND

## SCIENTIFIC MEETING

SATURDAY, 4 NOVEMBER 2017 FROM  
08:00 TO 17:30



Chaired by **Karin Groothuis-Oudshoorn, PhD** and **Terry Flynn, PhD**, this half-day symposium and full-day meeting will provide a forum to present and discuss innovative developments in health preference research. The symposium will focus on “**The Econometrics of Preference Heterogeneity**” and include a panel discussion over alternative analytical approaches to modeling heterogeneous preferences. The scientific meeting will include peer-reviewed podium presentations, lunch (with poster session), and a business session.

## PROGRAM

### Pre-Meeting Symposium, Friday, 3 November 2017 from 13:00 to 17:30

GTG Glasgow, 1330 South Street, Glasgow G14 OBJ, Scotland

#### 13:00-13:10 Welcome

Meeting Chairs: **Karin Groothuis-Oudshoorn<sup>a</sup>** and **Terry Flynn<sup>a</sup>**

#### 13:10-14:40 Session 1 – Standard Methods, **Karin Groothuis-Oudshoorn<sup>a</sup>**

Introduction to preference heterogeneity, Terry Flynn<sup>a</sup>

Introduction to Scale Adjusted Latent Class (SALC) modeling:

Accounting for mean and variance heterogeneity to better understand healthcare preferences, Jay Magidson

Alternative algorithms for estimating random parameter logit models, Hong Il Yoo

#### 14:40-15:00 Coffee Break

#### 15:00-16:00 Session 2 – Alternative Methods, **Terry Flynn<sup>a</sup>**

Bayesian econometrics and discrete choice experiments: challenges and opportunities, Jorge E. Araña Padilla

Cluster analysis of health preferences, Mark Oppe<sup>a</sup>

#### 16:00-17:15 Session 3 – Panel Discussion

#### 17:15-17:30 Concluding Remarks



**Pre-Meeting Dinner, Friday, 3 November 2017 from 18:00 to 21:30**

**LA BODEGA TAPAS BAR**

1120 SOUTH STREET  
GLASGOW G14 0AP  
SCOTLAND



**Scientific Meeting, Saturday, 4 November 2017 from 8:00 to 17:30**

**8:00-8:15 Arrival and Light Breakfast**

**8:15-8:45 Welcome and Acknowledgement of Sponsors**

Meeting Chairs: **Karin Groothuis-Oudshoorn<sup>α</sup>** and **Terry Flynn<sup>α</sup>**

**8:45-10:15 Session 1, Karin Groothuis-Oudshoorn<sup>α</sup>**

Lexicographic preferences in lifespan: an inconvenient truth, Benjamin M. Craig<sup>α</sup>

Preferences for an end of life 'premium': a study of framing effects and study design considerations, Koonal Shah<sup>α,β</sup>

A fuzzy approach to time trade-off experiment in EQ-5D-3L valuation, Michał Kosma Jakubczyk<sup>α</sup>

Does latent-class analysis simply identify decision heuristics? Ellen Margreet Janssen

**10:15-10:30 Coffee Break**

**10:30-11:15 Session 2, Terry Flynn<sup>α</sup>**

An individual-level comparison of EQ-5D-5L values derived from paired comparison and best-worst data,  
Karin Groothuis-Oudshoorn<sup>α</sup>

Analyzing preference heterogeneity in best-worst scaling data, Mo Zhou<sup>β</sup>

**11:15-12:30 Elevator Talks**

Impact and Detection of Straightlining Response in Online Surveys, Peter Grant Moffatt

Evaluating preference and scale heterogeneity to estimate latent scale utilities for EQ-5D-Y states, Oliver Rivero-Arias<sup>α</sup>

A hybrid interval regression approach to estimate a value set, Juanma Ramos-Goñi<sup>β</sup>

Exploring transient impacts on preference heterogeneity: Republic of Ireland EQ-5D-5L valuation, Anna Hobbins<sup>β</sup>

A Comparative Analysis of Preferences for Health in Ireland between a Native and Migrant Sample, Dan Patrick Kelleher<sup>β</sup>

Examining the effects of expanding the number of latent classes of HPV vaccination parental worries, Divya Mohan<sup>β</sup>

Estimating HIV patients' treatment preferences to inform treatment decisions (ESPRIT). A DCE, Valerie Yelverton<sup>β</sup>

Compendium of methods for measuring patient preferences in medical treatment, Vikas Soekhai<sup>β</sup>

**12:30-13:30 Lunch and Poster Session**

**13:30-15:00 Session 3, Terry Flynn<sup>α</sup>**

The effect of inefficient designs on the stability of individual preferences, Marieke Weernink<sup>α,β</sup>

Mimicking real life decision-making in health: allowing respondents time-to-think in a DCE, Jorien Veldwijk<sup>α</sup>

Sex, risk, and changing preferences: Predicting risk compensation among female sex workers, Matthew Quaife<sup>α,β</sup>

Lexicographic preferences in U.S. health insurance marketplace: the case of single employees, Stephen W. Poteet<sup>β</sup>

**15:00-15:15 Coffee Break**

**15:15-16:00 Session 4, Karin Groothuis-Oudshoorn<sup>α</sup>**

Rationality tests in Discrete Choice Experiments - the pros and cons of testing dominant alternatives,  
Tabea Schmidt-Ott<sup>β</sup>

Is patient choice predictable? The impact of DCE designs and models, Esther W. de Bekker-Grob<sup>α</sup>

**16:00-16:15 Concluding Remarks**

**16:15-17:30 Business Session (All attendees are welcome)**



<sup>α</sup> indicates a member presenter

<sup>β</sup> indicates a student presenter



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## ABOUT US

Established on 15 April 2014, the International Academy of Health Preference Research (IAHPR) is a member-driven, inter-generational organization that promotes educational activities and research with respect to health and health-related preferences.

*Our aim is to improve decisions about health and healthcare throughout the world by developing, promoting, and supporting health preference research with the widest possible applicability.*

To donate to our 501(c)(3) organization, please send an email to: [contact@iahpr.org](mailto:contact@iahpr.org)

## DINING ARRANGEMENT

### SYMPOSIUM CATERING, FRIDAY, 3 NOVEMBER 2017

GTG GLASGOW, 330 SOUTH STREET, GLASGOW G14 OBJ, SCOTLAND

Upon arrival (12:30) and throughout the afternoon, coffee (regular and decaf), tea, and water as well as assorted juices and soda will be available. The buffet will start with a light snack, namely traditional Scottish high tea (mini scones, fruit skewers, finger sandwiches). During the afternoon break (14:40-15:00), Cranachan Torte and filled meringues will be added to the buffet. In addition, the tables will have bottles of water and an assortment of candies (Scottish Tunnocks selection).

### PRE-MEETING DINNER, FRIDAY, 3 NOVEMBER 2017

#### LA BODEGA TAPAS BAR

1120 SOUTH STREET  
GLASGOW G14 OAP  
SCOTLAND

All attendees are invited to a **networking dinner** at La Bodega Tapas Bar (1 block from GTG). The dinner is casual and included with registration (no guests, please). Salsa dancing begins upstairs around 21:30.



The dinner includes:

Welcome glass of White or Red Sangria and canapés:

Mixed Olives, Boquerones Marinados (Marinated Anchovies), Platters of Mixed Ibericos Meats (Serrano Ham, Sweet and Spicy Chorizo, Lomo etc),

Cheese platters, Dolmadas (rice & Vegetable filled vine leaves) and Morcillas (Spanish Black Puddings), Pan Tomaca (Oven warmed bread with tomato, garlic & olive oil)

Fresh Baked Bread.

Selection of Meat, Fish/Seafood, Vegetarian & Vegan Mains Dishes :

Meat dishes: Pollo Con Chorizo Salteado (Chicken & Chorizo fried with a delicious mix of fresh herbs & Mediterranean vegetables), Cordero Asado (Roast Lamb with Fresh Herbs and Vegetables), Estofado (Mediterranean style Beef Stew), Muslitos de Pollo al Infierno (Spicy oven-roasted Chicken Drumsticks), Fabada (Traditional Asturian Bean and Chorizo Dish)

Fish Dishes: Calamares a la Romana (Squid Rings dusted with flour & Deep Fried), Gambas Pil Pil (Classic King Prawns with garlic & a hint of chilli), Boquerones Fritos (Whitebait dusted with flour and deep fried) Fish Croquettes, Empanada de Pescado (Classic Galician Fish Pie)

Vegetarian Dishes: Spinach & Feta Pie, Melanzane a la Mozzarella (Delicious baked Aubergine with tomato & roasted peppers), Tortilla (Spanish Omelette) Russian Salad

Vegan Dishes: Lentil Salad, Garbanzada (Vegetable and Chick Pea Stew) Papas Arrugadas (Classic Canarian dish of Wrinkly Potatoes with Green Coriander &/or Red Pepper Sauce), Patatas Bravas (Classic Spanish Spicy Chunky Fried Potatoes Served with or with traditional spicy bravas sauce on the side)

All accompanied with Rice, Fresh Baked Bread & Various Salads

Sweets: Choice of In-house baked Santiago Cake (Spanish almond cake lightly dusted with icing sugar or Carrot Cake (Fluffy carrot sponge with creamy butter icing) or Fresh Fruit Salad. All served with cream or ice cream.

Each guest will also receive two premium bar tickets, which includes liquor mixed drinks, beers and selected wines. Non-alcoholic beverages are freely available upon request (no ticket required). If you do not use your drink tickets, you are welcome to share them with someone who will.

## MEETING CATERING, SATURDAY, 4 NOVEMBER 2017

GTG GLASGOW, 330 SOUTH STREET, GLASGOW G14 OBJ, SCOTLAND

Upon arrival (7:30) and throughout the day, coffee (regular and decaf), tea, and water as well as assorted juices and soda will be available. The buffet will serve a light breakfast, namely mini Danish Pastry's & Fruit Platters. During the morning break (10:00-10:15), Scottish Cheese Platter with a selection of oatcakes, celery & quince jelly will be added. In addition, the tables will have bottles of water and an assortment of candies (tablet & caramel shortbread).

For lunch (12:00-13:00), the buffet have:

- Arran Mustard Mini Scone filled with Smoked Salmon & Dill Cream
- Smoked Ayrshire Bacon & Caramelised Onion Tartlets
- Panko Breaded Haggis Lollipop with a Peppercorn Dip
- Selection of Fresh Sandwiches Filled with locally sourced Produce
- Scottish Root Vegetable Crisps

During the afternoon break (14:30-14:45), Fresh Fruit Skewers and Mini Dessert Selection will be served.

## FUTURE MEETINGS

8th Meeting of the International Academy of Health Preference Research

September 2018, chaired by **Brendan Mulhern** and **Richard Norman**

Hobart, Tasmania, Australia

Afternoon symposium on “*Design of Discrete Choice Experiments*” followed by scientific meeting

9th Meeting of the International Academy of Health Preference Research

13-14 October 2018, chaired by **Meenakshi Bewtra** and **Jan Ostermann**

Centre Monte-Royal, Montréal, Québec, Canada

Scientific meeting followed by morning symposium on “*Support Tools for Preference-Sensitive Decisions*”

10th Meeting of the International Academy of Health Preference Research

13-14 July 2019, chaired by **Esther W. de Bekker-Grob** and **Jennifer A. Whitty**

Volkhaus, Basel, Switzerland

Morning workshop and afternoon symposium followed by scientific meeting

11th Meeting of the International Academy of Health Preference Research

November 2019, chaired by TBN

Auckland, New Zealand

12th Meeting of the International Academy of Health Preference Research

July 2020, chaired by **Ateesha Mohamed** and **Shelby Reed**

USA

13th Meeting of the International Academy of Health Preference Research

November 2020, chaired by **Michał Jakubczyk** and **Jorien Veldwijk**

Europe



## ABSTRACTS

SESSION 1, 8:45-10:15, Karin Groothuis-Oudshoorn<sup>a</sup>

### Lexicographic preferences in lifespan: an inconvenient truth

Benjamin M. Craig<sup>a</sup>, PhD, University of South Florida, Tampa, USA

**Background:** In health preference studies, some respondents consistently prefer alternatives with the greatest lifespan regardless of the impact on health-related quality of life (HRQoL). The aim of this study is estimate the prevalence of lexicographic preferences in lifespan among U.S. adults. If such non-traders are prevalent, common elicitation tasks (e.g., TTO) and econometric approaches (e.g., QALYs) may not be appropriate to characterize the societal perspective in health valuation. **Methods:** As part of a brief nationally representative survey, 4003 U.S. adults were asked to complete nine paired comparisons (“Which do you prefer?”) trading off extrema in HRQoL and lifespan, including “Immediate death.” These pairs were specifically designed to capture lexicographic preferences. We estimated the prevalence of such preferences, characterized three subpopulations (traders, survivors, non-traders), and examined their association with self-reported agreement with assisted suicide (chi square). **Results:** When asked directly, most respondents (82%) preferred “Immediate death” rather than “Suffer extremely and be disabled completely for the rest of my life” (traders). Among the remainder, some (15%) preferred to “Shorten my lifespan by 1 day,” rather than experience this extrema in HRQoL (survivors). Few (3%) consistently preferred the extrema in HRQoL (non-traders). Compared to the traders, disagreement with assisted suicide is more prevalent among the survivors and non-traders (22%, 37%, 42%; p-value<0.01). **Conclusions:** One in five of U.S. adults expressed an inability to ever choose “immediate death” even when faced with extrema in HRQoL. This evidence suggests that “immediate death” is priceless for some US adults; therefore, HRQoL values from a societal perspective cannot be accurately summarized on a QALY scale. Although TTO tasks and QALYs may be appropriate to characterize the perspective of traders, new methods are needed to improve health preference studies (e.g., adaptive tasks; cluster analysis) so that researchers can better incorporate the perspectives of non-traders, particularly patients.

### Preferences for an end of life 'premium': a study of framing effects and study design considerations

Koonal Shah<sup>a,β</sup>, MSc, Office of Health Economics, Aki Tsuchiya, PhD, University of Sheffield, Allan Wailoo, PhD, University of Sheffield

**Introduction/background:** A number of recent studies have examined the extent of public support for an ‘end-of-life premium’ – that is, whether people place greater weight on a unit of health gain for end-of-life patients than on that for other types of patients. The objective of this study is to assess whether any observed preferences regarding an end-of-life premium are affected by framing effects and study design considerations, such as the perspective used to elicit preferences and whether or not visual aids and indifference options are included in the survey. **Methods/approach:** Preferences were elicited from a representative sample of the UK general public using an online survey (n=2401). Respondents were randomly allocated to one of six study arms, each of which applied a different framing. The study design was informed by the National Institute for Health and Care Excellence's supplementary policy appraising life-extending end-of-life treatments. The choice tasks involved asking respondents which of two hypothetical patients they would prefer to treat, assuming there were enough funds to treat only one of them. Respondents were also asked a series of attitudinal questions examining their support for general health care priority setting policies. Comparisons between arms and between tasks were assessed using the Pearson's chi-squared test. **Results/significance:** The overall results were not consistent with an end of life premium. Respondents' choices were found to be sensitive to the choice of perspective, and to the inclusion of indifference options and (to a lesser extent) visual aids. However, in none of the study arms did a majority of respondents choose to prioritise the treatment of the end of life patient. **Conclusions/implications:** The findings demonstrate the influence of framing effects and study design considerations in stated preference research. Researchers should seek to control for such effects when seeking to examine people's health care priority setting preferences.

## A fuzzy approach to time trade-off experiment in EQ-5D-3L valuation

**Michał Kosma Jakubczyk**<sup>a</sup>, PhD, SGH Warsaw School of Economics, Dominik Golicki, PhD, Medical University of Warsaw

People rarely actually trade health; hence, health preferences are not well formed. I assess the possibility of using fuzzy numbers when eliciting the utilities in time trade-off (TTO) and estimating the dimension importance and value sets. A modified-TTO survey was used. Respondents (184, a convenience sample) answered demography questions, self-rated own health, and answered ten TTO tasks. Apart from a standard valuation, the respondent provided ranges of equally/somewhat plausible answers (EPAS/SPAS), which define the (dis)utility as a trapezoidal fuzzy number. The length of EPAS/SPAS was compared with the standard error of (a crisp) mean (SEM). The determinants of EPAS length were identified. I built several models to identify dimensions impact on (dis)utility: (A, as a benchmark) crisp disutility-crisp parameters; (B) fuzzy disutility-crisp parameters, based on the directed Hausdorff distance; two fuzzy-fuzzy models: using the Hausdorff distance (C1) or modelling the middles and lengths of EPAS (C2). Value sets were constructed. The average length of EPAS varied between 0.063 (state 21111) and 0.137 (11113), 2–6 times the length of SEM. EPAS widens with usual activities (UA) and anxiety/ depression. Derived variables (e.g. maximal level, misery index) improve the fit considerably, and were used in C2. When modelling disutility, models A and B produce similar results (with  $u(55555) \approx 0.8$ ), proving the impact of imprecision is little with crisp parameters assumed. In C1, the largest imprecision is associated with levels 3 of UA ([0.343;0.443]) and pain/discomfort ([0.423;0.498]). Counterintuitively, some parameters (e.g. for mobility) degenerate to zero-length intervals. C2 seems most favourable approach as the worsening in any dimension implies imprecision; e.g.,  $u(55555) = [-0.828; -0.716]$ . In eliciting utilities of health states, the imprecision (not decreasing with sample size) surpasses the stochastic uncertainty. Fuzzy methods allow inspection of mechanism behind imprecision and extrapolation onto value set. The inherent imprecision should be handled in decision making.

## Does latent-class analysis simply identify decision heuristics?

**Ellen Margreet Janssen**, PhD, Johns Hopkins Bloomberg School of Public Health, Nancy Schoenborn, MD, Johns Hopkins School of Medicine, John F.P. Bridges, PhD, Johns Hopkins Bloomberg School of Public Health

**Introduction/Background:** Conflicting recommendations exist on excluding participants exhibiting non-compensatory preferences in the analysis of preference studies. We explored effects of including non-trading participants on the estimation of preference-heterogeneity for cancer-screening decisions of older Americans. **Methods:** We conducted a take-it-or-leave-it discrete-choice experiment among a national sample of older adults (with oversampling of racial/ethnic minorities). Four attributes of screening decisions, including age at screening, life expectancy, quality of life, and doctor's recommendation, were identified through rigorous instrument development. Participants completed 9 choice tasks, selected using an orthogonal design, in which they indicated whether they would accept the hypothetical screening profiles. Latent class analysis identified segmented choice models including and excluding non-trading participants. **Results:** 881 participants (response rate 69.3%), mean age 71.8, completed the survey. The take-it-or-leave-it format facilitated identifying participants that did not base decisions on screening factors; 221 (25%) participants always or never accepted a screening profile. When non-traders were included, latent class analysis identified three classes (class 1 = 13%, class 2 = 38%, and class 3 = 49% of participants). Classes were highly correlated with trading behavior: 100% of class 1 members never accepted a screening profile, 31% of class 2 members always accepted a screening profile, and 99% of class 3 members sometimes accepted a screening profile. Preference estimates of the classes for the inclusive model and the exclusive model were highly correlated (Pearson's  $\rho = 0.88$ ). When non-traders were excluded, two classes were identified. For the exclusive model, class 1 (23% of participants) valued age at screening significantly more than other screening factors, while class 2 (77%) assigned more equal value to all factors. **Conclusions:** Latent class

analysis might simply identify groups with different decision heuristics. Researchers need to be aware of non-trading behavior when conducting latent class analysis to ensure that meaningful classes are identified.

MID-MORNING BREAK, 10:15-10:30

SESSION 2, 10:30-11:15, Terry Flynn<sup>a</sup>

### An individual-level comparison of EQ-5D-5L values derived from paired comparison and best-worst data

Catharina G. Groothuis-Oudshoorn<sup>a</sup>, PhD, Assistant Professor University Twente, Terry N. Flynn, PhD, TF Choices LTD, Alexander M. Arons, PhD, Novartis

**Introduction:** Best-Worst Scaling is increasingly used to provide a tariff – a set of ‘preference based values’ for instruments used in public priority-setting. However, the increasingly used ‘Case 2’ BWS has only been assumed, to provide a tariff that is linearly related to that which would have been obtained from traditional choice models requiring the respondent to choose between whole health/quality of life states. This study is the first robust test of this assumption. Using a novel design, it calculates how respondents ‘rescale’ Case 2 ‘degrees of disutility’ into a whole health state to make between-state comparisons. **Methods:** Three hundred and eighty respondents from an internet panel answered a combination of twenty five best worst tasks and paired comparisons containing EQ-5D-5L states. The data were analyzed using descriptive statistics, conditional logit models and advanced econometric models, stratifying by level of impairment. **Results:** Pain/discomfort and mobility are for both DCE (23.9%, 23.9%) and BWS (24.4%, 23.3%) the attributes with the highest weight. For the DCE (23.6%) anxiety/depression has a higher weight than for BWS (18.1%). A high correlation between aggregate BWS and DCE coefficients ( $r=0.9$ ) concealed large differences at the individual level, ranging from a factor of 0.28 for anxiety/depression to 0.11 for self-care. **Discussion:** Case 2 BWS scores are related to those from a traditional DCE. However, respondents appear to apply different weights to the attributes, particularly if they have experience of impairments. This may prove to be a strength: it helps quantify the phenomenon of experienced utility, whereby adaptation effects influence a person’s preference base scores. **Conclusion:** Replication of these findings may illustrate how a standardized health/quality of life instrument can act as both a national preference-based instrument for priority-setting and a patient reported outcome measure (PROM) for use within specific areas of medicine.

### Analyzing preference heterogeneity in best-worst scaling data

Mo Zhou<sup>b</sup>, PhD, MPA, MHS, Johns Hopkins School of Public Health, Karen Bandeen-Roche, PhD, Johns Hopkins School of Public Health, John FP Bridges<sup>a</sup>, PhD, Johns Hopkins School of Public Health

**Background:** Researchers are increasingly using latent class logit (LCL) to analyze heterogeneity in best-worst scaling (BWS) data. Standard information criteria for identifying the best-fitted model such as Bayesian Information Criteria (BIC), however, often fail when LCL is applied to BWS. This study sought to compare alternative models to analyze heterogeneity in BWS data. **Methods:** We used data from a national survey among patients with Type 2 diabetes. It aimed to prioritize 11 potential barriers and facilitators for diabetes self-management using BWS case 1. A balanced-incomplete-block design generated 11 choice tasks, each including five factors. Each task asked respondents to select the best and worst factors in terms of impact on their diabetes management. The traditional LCL model was first estimated with two to ten classes. Standard LC clustering analysis was then conducted on 11 multinomial logit regressions on the choice tasks, each with five possible outcomes. Each factor was allowed to have different conditional probabilities being chosen as best/worst in different choice tasks. **Results:** 554 respondents completed the survey. BIC continued decreasing with an increase number of classes in LCL. With flexible model specification, the standard LC cluster model identified five barrier classes and five facilitator classes based on minimized BIC. Healthcare providers, motivation, family support, access to healthy food, and ability to pay were the



greatest facilitators for 26.2%, 21.9%, 21.0%, 18.1%, and 12.8% of respondents, respectively. Work commitment, ability to pay, motivation, family support, and access to healthy food were the greatest barriers for 38.4%, 22.2%, 19.2%, 10.6%, and 9.7% of respondents, respectively. Age, race/ethnicity, income, education, health status, and personalities were correlated with class membership ( $p < 0.05$ ). Preference heterogeneity was more salient across classes in the standard LC model. **Conclusion:** More flexible model specifications may generate more parsimonious and practical results than LCL when analyzing heterogeneity in BWS.

ELEVATOR TALKS, 11:15-12:30

## Impact and Detection of Straightlining Response in Online Surveys

**Peter Grant Moffatt**, PhD, University of East Anglia, **Simon Peters**, PhD, University of Manchester, **Chris Skedgel**, PhD, University of East Anglia

In the context of a stated-binary-choice experiment, or Discrete Choice Experiment (DCE), straightliners (Maronick, 2009), are survey participants whose responses are not related to the attributes of the two alternatives, and can therefore be perceived as choosing at random in every choice task that they face. This paper first illustrates the impact of straightlining response by means of a monte-carlo study of a straightforward stated travel-mode choice model with two attributes (travel cost and travel time). As expected, the marginal disutilities of both cost and time are biased towards zero in the presence of straightliners. It is also shown that the estimate of value-of-time is biased upwards, and much less precise, in the presence of straightliners. For example, if straightliners make up 20% of the sample, the estimate of value of time will be biased upwards by more than 50%, and its standard deviation is increased by a factor of 4. In the second part of the paper, we develop a finite mixture model in which the proportion of straightliners in the population can be estimated, and hence their presence in the sample can be tested for and adjusted for. Thirdly, we consider ways of allowing the straightlining propensity to depend on individual characteristics. Fourthly, we construct formulae for the posterior probability of each individual sample member being a straightliner. The method is applied to real data from a DCE on choices between healthcare programmes. We estimate the proportion of straightliners to be 0.14 in this data set.

## Evaluating preference and scale heterogeneity to estimate latent scale utilities for EQ-5D-Y states

**Oliver Rivero-Arias**<sup>a</sup>, DPhil, University of Oxford, **David Mott**, PhD, Office of Health Economics, **Koonal Shah**, PhD, Office of Health Economics, **Juan Manuel Ramos-Goñi**, MSc, EuroQol Research Foundation, **Nancy Devlin**, PhD, Office of Health Economics

**Background** Discrete choice experiments (DCE) are now widely used to estimate values for health states from preference-based instruments such as those from the EQ-5D family. The majority of these studies have obtained latent scale utilities that are subsequently anchored to the quality-adjusted life year (QALY) scale. These latent scale utilities have been estimated primarily using a (conditional) multinomial logit which imposes the assumption that individuals have homogeneous preferences (preference homogeneity) and that choices are made with the same degree of randomness across individuals (scale homogeneity). Advances in econometric methods allows researchers to relax these assumptions, increasing the behavioural realism of these models. In this paper, we investigate preference and scale heterogeneity when estimating latent scale utilities for health states from the EQ-5D-Y (younger population version of EQ-5D) in the UK. **Methods** Preferences were obtained using a DCE from a representative sample of adult members of the UK general population belonging to an online panel. Adults completed the valuation survey from the perspective of a 10-year-old child. A blocked Bayesian efficient design was used to identify pairs of health states, with fifteen pairs presented to each respondent. DCE data were modelled using a main effects multinomial logit (MNL), generalised multinomial logit (G-MNL) and mixed logit (ML) models. All models included an alternative-specific constant (ASC). Model performance was evaluated using goodness-of-fit assessed with Akaike information with adjustment to sample size (AIC/n). **Results** The ASC was statistically

significant in the MNL but not in the G-MNL and ML. Lower goodness-of-fit was obtained for the ML (0.9601), followed by the G-MNL (1.028) and the MNL (1.107). The G-MNL suggested that most of the heterogeneity observed across individuals was due to preference and not to scale heterogeneity.

**Implications** Our results suggest that the estimation of latent scale utilities from DCE preference data should employ models that incorporate more realistic behavioural models.

## A hybrid interval regression approach to estimate a value set

**Juanma Ramos-Goñi**<sup>β</sup>, MSc, EuroQol Research Foundation, Benjamin Craig, PhD, University of South Florida, Mark Oppe, PhD, EuroQol Research Foundation, Yolanda Ramallo-Fariña, MSc, HTA Unit of Canary Island Health Service, Jose Luis Pinto-Prades, PhD, University of Navarra, Nan Luo, PhD, National University of Singapore, Oliver Rivero-Arias, PhD, University of Oxford

**Background** In a valuation study continuous responses may represent a value, a lower or upper bound of a value, or a range of values. Dichotomous responses may represent an inequality in value (e.g.,  $U(A) < U(B)$ ). Given a data-set with continuous and dichotomous responses, we propose to estimate the parameters of a hybrid regression model by maximising a single likelihood function, namely the product of the likelihoods of continuous and dichotomous responses. Analogous to combining interval regression with logistic regression, this research demonstrates the feasibility of using this approach to generate an EQ-5D-5L value set. **Method** Four different models were tested. Model 1 integrated C-TTO and DCE responses in a hybrid model and models 2 to 4 altered the interpretation of the C-TTO responses: model 2 allowed for censoring of the C-TTO responses, while model 3 incorporated interval responses and interviewer-dependent protocol violations. For external validation, the predictions of the four models were compared to those of the follow-up study using Lin's concordance coefficient. **Results** This step-wise approach to modelling C-TTO and DCE responses improved the concordance between the valuation and follow-up studies (CCC 0.948 [model 1], 0.958 [model 2], and 0.989 [model 3]). We recommend the estimates from model 3, because its hybrid interval regression model addresses the data quality issues found in the valuation study. **Conclusion** Inaccurate responses may occur in any valuation study; handling them in the analysis can improve external validity. The suggested hybrid interval regression approach provides a framework to manage inaccurate valuations.

## Exploring transient impacts on preference heterogeneity: Republic of Ireland EQ-5D-5L valuation

**Anna Hobbins**<sup>β</sup>, B.Comm., MSc. (Health Economics), NUI Galway. PhD Candidate, Luke Barry, B.Comm., M.Econ. Sc., NUI Galway. PhD Candidate, Ciaran O'Neill, B.Sc(Econ.), PhD, Queen's University Belfast. Professor of Health Economics

**Introduction** Preference heterogeneity can be interpreted with reference to the health state being valued and the context of the individual whose preferences are expressed. Using time trade-off for example, one might expect less time to be traded for a health state with a higher level of functioning. While time invariant aspects of context may be important elements of context so too might time variant aspects, even transient aspects of context such as weather conditions. The objective of this paper was to ascertain whether the weather and/or day of the week on which preferences were elicited influenced those preferences. **Methods** Using the EuroQol Valuation Technology (EQ-VT), EQ-5D-5L valuation tasks were administered to a sample of 1017 residents of the Republic of Ireland in 2015/16. Each respondent provided 10 time trade-off and 7 discrete choice valuations for randomly assigned health states. In addition to main effects and socio-demographic characteristics weather data for the day of interview were collected and used to help interpret preference heterogeneity. Preferences were analysed using a hybrid model corrected for heteroscedasticity. **Results** The model produced estimated coefficients showing a reduction in utility as health problems worsen in each dimension. Among covariates it was found that as rainfall increased so too did the value accorded to health states. No significant effect was found with respect to the day of the week. **Conclusions** Context is important in understanding preferences. Importantly transient aspects of context may also be important.

This may have implications for the time period allotted to the conduct of national valuation surveys, to cover different seasons, for example, and for the interpretation of differences between national surveys.

## A Comparative Analysis of Preferences for Health in Ireland between a Native and Migrant Sample

**Dan Kelleher**<sup>β</sup>, B.Comm. MSc., J.E. Cairnes School of Business and Economics, NUI Galway., Luke Barry, B.Comm. MSc., J.E. Cairnes School of Business and Economics, NUI Galway., Anna Hobbins, B.Comm. MSc., J.E. Cairnes School of Business and Economics, NUI Galway., Ciaran O'Neill, B.Sc. PhD., Centre for Public Health, Queen's University Belfast

**Introduction** Many studies have investigated the so-called 'healthy migrant effect' in terms of health and health service use. It is perhaps surprising therefore that no studies have examined whether the health preferences of migrants differ from those of their host population. Ireland has seen a large increase in inward migration since 2005, with Polish migrants constituting the largest non-Irish group living in Ireland. Previous studies have highlighted marked differences in preferences between countries, however, as emigrants are atypical of their country of origin there is no reason to assume their preferences would differ to those of their host country. **Methods** Using the EuroQol Valuation Technology (EQ-VT), EQ-5D-5L valuation tasks were administered to a sample of 84 Polish migrants residing in Ireland in 2015/2016. The values of an equal number of native Irish residents collected over the same time frame were matched to these using propensity score matching and a probit estimator with frequency weights applied for reweighting. Hybrid analysis was used to estimate the relationship between health state valuations and migrant status controlling for covariates. **Results** The Hybrid analysis demonstrated Polish migrants on average apply a significantly lower valuation per health state when compared to their native Irish born counterparts at  $p < 0.01$ . **Conclusion** The examination of preferences for health states has shown that Polish migrants in Ireland apply a lower value to health states than do native Irish. This may reflect differences between Poles and Irish or differences between migrant and non-migrant populations. The recent completion of Polish and Irish valuation studies will allow us to explore whether differences relate to migrant status as distinct from nationality.

## Examining the effects of expanding the number of latent classes of HPV vaccination parental worries

**Divya Mohan**<sup>β</sup>, MHS, Johns Hopkins University, Mo Zhou, PhD, Johns Hopkins University, Ellen M. Janssen, PhD, Johns Hopkins University, Melissa Gilkey, PhD, University of North Carolina, John F. P. Bridges, PhD, Johns Hopkins University

**Background:** The low uptake of the HPV vaccine in the US has caused speculation about parental worries as a barrier. We sought to identify and prioritize parents' worries about the vaccine and to explore possible latent classes of parent worry types. **Methods:** Parents of vaccine eligible children were recruited via a nationally representative online panel in the US. Respondents completed 11 best-worst scaling (Case 1) tasks containing a subset of 5 worries identified using a balanced incomplete block design. Latent class logit models of varying sizes (ranging from 2-5) were estimated, and examined for their policy relevance. Using BIC identified an impractical number of classes in the data. **Results:** 447 parents completed the survey. BIC decreases with an increase in the number of classes. 52.9% of the respondents in the 2-class model ranked long-term side effects the single most significant concern while the rest also worried about motives of drug companies. The 3-class model added an additional class of respondents (17.0%), who chose encouraging sexual activity as the biggest concern. The 4-class model identified a new class of parents (24.6%), whose strongest concern was long-term side effects, but also how new the vaccine was and whether it was necessary. The 5-class model identified an extra class of parents (5.2%) worrying about both the HPV vaccine encouraging sexual activity and having to talk about sex. **Conclusions:** Increasing the number of classes leads to the formation of diverse groups with different worries, each of which has implications in a clinical setting. The instability in the classes indicates that arbitrarily choosing a two-group or three-group model is not a satisfactory way to choose a representative model and might result in too few classes to comprehensively

describe preference heterogeneity. Researchers should be wary of sacrificing a comprehensive representation of preferences for model parsimony.

## Estimating HIV patients' treatment preferences to inform treatment decisions (ESPRIT). A DCE

Jan Ostermann, PhD, University of South Carolina, Duke University, **Valerie Yelverton**<sup>β</sup>, B.Sc, Hochschule Neubrandenburg, University of South Carolina, Axel Christian Mühlbacher, PhD, Hochschule Neubrandenburg, Duke University, Nathan Maclyn Thielman, MD, M.P.H, Duke University

**Background:** Initial treatment of HIV involves a choice from up to 21 recommended antiretroviral treatment (ART) regimens. Therefore decision makers have to consider several clinical and non-clinical decision criteria. To inform the development of a clinical decision support tool, the ESPRIT-study characterizes patients' preferences for key characteristics of ART. **Method:** Four attributes of ART comprise the decision model underlying the DCE: dosing characteristics, administration characteristics, most bothersome side effect (selected from: diarrhea, sleep problems, headaches, dizziness/difficulty thinking, depression, jaundice) and most bothersome long-term effect (selected from: increased risk of either heart attack, bone fractures, kidney problems, high cholesterol, high blood sugar). To address heterogeneity, an adaptive 3-alternative DCE (5 blocks with 16 choice-sets each, d-efficient  $4^1 \times 3^1 \times 2^2$  MMNL-design created in Ngene with one overlap, no opt out or status quo) was implemented. In addition, every participant's DCE-survey incorporated their individually most bothersome side and long-term effects. **Results:** Between February and August 2017, 402 HIV-patients from North and South Carolina, USA, and a national online panel participated in the survey; the mean age was 49.7 years; 68.2% were male. The most important attribute was experiencing side effects (level difference: 6.12), followed by change in risk of long-term effects (4.33), dosing (2.03), and administration characteristics (1.18). All attributes were significantly associated with preferences ( $p < 0.001$ ). Significant standard deviations of the mean for all parameters ( $p < 0.001$ ) were indicative of substantial heterogeneity. The distribution of the most bothersome side and long-term effects also revealed considerable heterogeneity, with all 30 possible combinations chosen at least once. The most frequently chosen combination was diarrhea+heart attack ( $n=58$ ). **Conclusion/Outlook:** Identified heterogeneity calls for individual-level approaches, both to the elicitation of preferences and the treatment choice. We are currently evaluating the feasibility of incorporating DCE-based preference data into a clinical decision support tool via an innovative response matching approach.

## Compendium of methods for measuring patient preferences in medical treatment

**Vikas Soekhai**<sup>β</sup>, MSc, LL.M., Erasmus University Medical Centre, Chiara Whichello, MSc, MA, Erasmus University Rotterdam, Bennett Levitan, MD, PhD, Janssen R&D, Jorien Veldwijk, PhD, Uppsala University, Tarek Hammad, MD, PhD, MSc, MS, FISPE, Merck & Co, Eline van Overbeeke, MSc, KU Leuven, Selena Russo, PhD, MPsych(H), MORGPsych, European Institute of Oncology, Ateesha Mohamed, MA, Bayer, Juhaeri Juhaeri, PhD, Sanofi, Esther de Bekker-Grob, PhD, Erasmus University Rotterdam

**Background** Patient preference studies are taking on an increasingly important role in the medical product lifecycle. While there are numerous industry, academic, regulatory and patient group efforts addressing standards, quality and proper application of preference studies, there is limited understanding of the range of methods to assess preferences and the trade-offs between them. To develop evidence-based recommendations to guide different stakeholders on how and when patient preference studies should be performed, we developed a comprehensive overview of patient preference exploration and elicitation methods. **Methods** We used a three-step approach to identify existing preference exploration (qualitative) and elicitation (quantitative) methods: 1) listing methods identified in previous preference method reviews; 2) conducting a systematic literature review on 4,572 unique papers identified through multiple scientific databases, using English full-text papers published between 1980 and 2016; and 3) having discussions with international experts ( $N=14$ ) in the field of health preferences and/or medical decision making to validate the methods found. **Results** We identified 32 unique preference methods: 10 exploration and 22 elicitation



methods. Consensus was reached among the experts interviewed to cluster exploration methods in three main groups: “Individual techniques”, “Group techniques” and methods that were both “Individual and Group techniques”. Elicitation methods were clustered in four groups: “Discrete Choice Based related techniques”, “Indifference Choice Based related techniques”, “Rating related techniques” and “Ranking related techniques”. **Conclusions** This study identified 32 unique methods for exploring and measuring patient preferences, and reached consensus in clustering the methods. This compendium is a resource for researchers in the patient preference field and also serves as the basis to conduct additional studies that appraise the methods and determine which methods are most appropriate for measuring patient preferences in which phase of the medical product lifecycle to support patient-centric decision making.

LUNCH/POSTER SESSION, 12:30-13:30

SESSION 3, 13:30-15:00, Terry Flynn<sup>a</sup>

### The effect of inefficient designs on the stability of individual preferences

**Marieke Weernink**<sup>a,β</sup>, PhD, Department of Health Technology and Services Research, University of Twente, Janine van Til, PhD, Department of Health Technology and Services Research, University of Twente, Karin Groothuis-Oudshoorn, PhD, Department of Health Technology and Services Research, University of Twente

**Introduction** In conjoint analysis, efficient experimental designs often require the respondent to answer many choice tasks. To reduce respondent burden, less efficient designs are used. We aim to investigate the effects of using inefficient designs on the stability of individual preferences. **Methods** Two convenience samples completed a best-worst scaling case 2 experiment exploring preferences for treatment of localized prostate cancer (PC) or breast cancer (BC). Treatments were described using 5 attributes and 2 levels in both cases. An efficient design (balanced and orthogonal) was used to construct 16 profiles/questions. The sequence of profiles ensured that after 6 and 12 questions level-balance was obtained (no orthogonality). After completion of 6, 12 and 16 questions, each respondent received real-time feedback on the importance of attributes (graph) and a preferred treatment recommendation (words). Feedback was based on best-minus-worst scores. **Results** In total, 68 women and 23 men completed the experiment. 82% of respondents received the same treatment recommendations after completion of 6, 12 or 16 questions (85% BC, 78% PC). In addition, for 12% (7% BC, 17% PC) only the treatment recommendation after six questions differed from the latter two. For the BC-case the mean-difference in importance score per attribute between 6 and 12 questions was 7.5% (3.1%) and between 12 and 16 questions 3.9% (2.0%),  $P < 0.001$ . For PC, the differences were 6.9% (3.4%) and 3.5% (1.5%) respectively,  $P < 0.001$ . Although only two respondents had the same rank order of attributes based on importance, 81% of respondents never changed their most important attribute (82%-BC, 78%-PC), and 45% never altered their second-most important attribute (47%-BC, 39%-PC). **Conclusions** For these cases, individual preferences are quite stable after six questions. However, adding more questions results in higher stability of attribute importance. More research is needed to examine whether inefficient designs can be used in value clarification exercises.

### Mimicking real life decision-making in health: allowing respondents time-to-think in a DCE

**Jorien Veldwijk**<sup>a</sup>, MSc, PhD, Erasmus University & Erasmus Choice Modelling Center & Uppsala University, Jennifer Viberg-Johansson, MSc, Uppsala University, Bas Donkers, MSc, PhD, Prof, Erasmus University & Erasmus Choice Modelling Center, Esther de Bekker-Grob, MSc, PhD, Erasmus University & Erasmus Medical Center & Erasmus Choice Modelling Center

**Introduction:** In Discrete Choice Experiments (DCEs) people are asked to make instant choices in complex hypothetical scenarios, while in real-life they are provided time-to-think (TTT) before making a decision. This study empirically tested to which extent respondents' decision-making and the outcomes of a DCE change when respondents are allowed TTT. **Methods:** 613 participants of the Swedish CARDioPulmonary bioImage Study (SCAPIS), completed an online DCE survey eliciting their preferences for receiving incidental findings



of a genetic test. A Bayesian efficient design containing 60 unique choice tasks divided over four blocks of 15 choice tasks was used. Included attributes were: type of disease, disease penetrance probability, preventive opportunities and effectiveness of the preventive measure. Respondents were randomly allocated TTT or no TTT (NTTT) after reading the explanation. Panel latent class models were conducted to determine attribute level estimates and their relative importance. Attribute level interpretation, choice consistency, choice certainty, and potential uptake rates were compared between the TTT and NTTT sample. **Results:** 92% of the respondents in the TTT sample indicated they had thought about the choices during the TTT period. In the TTT sample, respondents focused significantly ( $P>0.05$ ) more often on 'disease penetrance probability' as compared to respondents in the NTTT sample. In both samples a three-class model was fitted. Preference reversal was found in one of the classes of the NTTT sample (i.e. respondents significantly ( $P<0.05$ ) preferred lowest disease penetrance rates over highest rates). Class-adjusted relative importance scores of the attributes differed between the two samples, which led to substantial differences in potential uptake rates for realistic implementation scenarios for returning incidental findings of genetic tests. **Conclusions:** Offering respondents time-to-think in a DCE influences decision-making and preferences. Future DCEs in the healthcare area are advised to consider this approach (mimicking real-life decision-making) to enhance the validity of the elicited preferences.

### Sex, risk, and changing preferences: Predicting risk compensation among female sex workers

**Matthew Quaife**<sup>α,β</sup>, MSc, LSHTM, Fern Terris-Prestholt, PhD, LSHTM, Zindoga Mukandavire, PhD, LSHTM, Peter Vickerman, DPhil, University of Bristol

**Introduction** In commercial sex work, condomless sex often sells for a higher price than protected sex. We do not know how new HIV prevention products might change the market for unprotected sex, or lead to risk compensation as sex workers provide more unprotected sex. This study uses a repeated DCE to simulate the impact of risk compensation in a dynamic transmission model, to assess whether behaviour changes could substantively reduce the effectiveness of new HIV prevention products. **Methods** We collected stated preference data from 122 HIV negative female sex workers in South Africa. Participants chose between two hypothetical sex acts and an opt-out alternative, described by act price, condom use, and risk. The DCE was asked to participants twice: with no framing, and asking for responses as if were using a fully effective HIV prevention product. DCE simulations were used to parameterise risk compensation in a dynamic transmission model. Scenarios modelling changes in condom use and the quantity of unprotected sex supplied were parameterised by combining DCE simulations with classical and behavioural economic theory, including the target income hypothesis. Additionally, competition between product users and non-users was considered. **Results** DCE data predict that the price premium for condomless sex will decrease by 73% with the use of a fully protective product, with the quantity of condomless sex increasing by a factor of 2.3. Results from the transmission model suggests that new products could substantially reduce HIV infection, but the magnitude of this impact is highly sensitive to risk compensatory behaviours. **Conclusions** This study is the first to explicitly incorporate economic factors into a HIV transmission model. Predictions of risk compensation from DCE data show that the impact of HIV prevention products on the market for commercial sex should be monitored closely to understand the impact of changing incentives on behaviours.

### Lexicographic preferences in U.S. health insurance marketplace: the case of single employees

**Stephen W. Poteet**<sup>β</sup>, M.S., University of South Florida, Tampa, USA, Benjamin M. Craig, PhD, University of South Florida, Tampa, USA, Derek S. Brown, PhD, Washington University, St. Louis, USA

**Background:** Under Obamacare, single employees may purchase coverage through the Health Insurance Marketplace. To promote a healthy workforce, employers may choose to subsidize employee coverage. This study examines the preferences of single employees on health insurance to guide U.S. health insurance and tax reforms. **Methods:** In 2017, 2207 single employees, age 26 to 64, with employer-based health insurance were asked to complete an online survey with 28 paired comparisons. Each comparison asked "which do you

prefer?" between alternatives describe by plan type (fee-for-service[FFS], preferred provider organization[PPO], point-of-service [POS], health maintenance organization [HMO]), coverage (Platinum, Gold, Silver, Bronze), premium (\$25, 50, 75, 100, 125, 175, 250) and source (employer, Marketplace). To assess preference heterogeneity, we tested for lexicographic patterns and estimated models of insurance demand using maximum likelihood with respondent clusters, namely logit and Zermelo-Bradley-Terry models.

**Results:** Some respondents NEVER picked a plan with: premiums over \$175 (58.45%), over \$125 (37.29%), FFS plans (71.45%), HMO plans (12.60%), Bronze coverage (14.77%), or Platinum coverage (8.25%). Few respondents NEVER picked a plan from the Health Insurance Marketplace (4.58%). Based on the logit results, switching from employer-based coverage to the Marketplace is equivalent to loss of \$19.15 (95% CI \$13 to \$26), which is less than the difference between Bronze and Silver coverage (\$53,  $p$ -value $<0.01$ ). **Conclusions:** Respondents demonstrated lexicographic preferences on health insurance, a particular form of preference heterogeneity ( $< \$175$  per month in premiums). U.S. employers may need to subsidize premiums by \$20 to get employees to switch from employer-based plans to the Marketplace. Federal or state tax incentives may promote such employer subsidies, improve employee choice, increase labor mobility, and enhance the long term solvency of the Marketplace. Although such enrollment may have short- and long-term implications, this analysis provides evidence favoring the acceptability of Obamacare among single employees.

MID-AFTERNOON BREAK, 15:00-15:15

SESSION 4, 15:15-16:00, Karin Groothuis-Oudshoorn<sup>a</sup>

### Rationality tests in Discrete Choice Experiments - the pros and cons of testing dominant alternatives

**Tabea Schmidt-Ott**<sup>β</sup>, BSc, London School of Economics and Political Science, UK, Ellen Janssen, PhD, Johns Hopkins Bloomberg School of Public Health, Baltimore, USA, Kevin Marsh, PhD, Evidera, London, UK, John F P Bridges, PhD, Johns Hopkins Bloomberg School of Public Health, Baltimore, USA, Matthew Quaife, PhD, London School of Hygiene and Tropical Medicine, UK, Tommi Tervonen, PhD, Evidera, London, UK

**Introduction** The increased use of discrete choice experiments (DCE) among regulatory authorities in health has highlighted the need to ensure valid results. Dominance tests are increasingly being applied to test for rational choice behaviour. We sought to examine how dominance tests are being implemented among recent applications of DCE in health and how authors account for dominance. We also demonstrate how these tests could be theoretically and empirically interpreted. **Methods** All DCE published in health during 2015 were reviewed for application and interpretation of dominance tests. To facilitate further interpretation of these tests, the authors were contacted for the test choice set and the observed proportion of subjects who chose the dominated option ( $p_o$ ). A logistic model was fitted, and the coefficients corresponding to the choice set were extracted to estimate the expected probability of choosing the dominated option ( $p_e$ ). A z-test was conducted to assess equality of  $p_o$  and  $p_e$ . **Results** Of the 112 applied DCE in health in 2015, 28 studies included a dominance test. The proportion of subjects choosing the dominated option ranged from 0% to 21%. In 46%, the dominance test led to the exclusion of participants. Ten studies tested the effects of participant exclusion on the model and most reported no effect. Of the fourteen choice sets analysed, two found the observed proportion to be larger than the expected probability ( $p_o > p_e$ ,  $p < 0.05$ ); seven sets found  $p_o < p_e$ ,  $p < 0.05$ . No difference was observed in the remaining five sets. **Conclusions** Though dominance tests are frequently applied, there is no consensus on how to account for them in data analysis and interpretation. In most studies the theory accommodates the dominated choices, as the observations can be explained by the model. Therefore, dominance tests are in practice a weak technique for assessing rationality of subjects' choice behaviour.

## Is patient choice predictable? The impact of DCE designs and models

**Esther W. de Bekker-Grob**<sup>a</sup>, PhD, Erasmus University Rotterdam, Joffre Swait, PhD, University of South Australia, Habtamu T. Kassahun, PhD, University of South Australia, Michiel C.J. Bliemer, PhD, University of Sydney, Marcel F. Jonker, PhD, Erasmus University Rotterdam, Jorien Veldwijk, PhD, Erasmus University Rotterdam, Karen Cong, MSc, University of South Australia, John M. Rose, PhD, University of Technology Sydney, Bas Donkers, PhD, Erasmus University Rotterdam

**Background:** Increased use of discrete choice experiments (DCEs) in healthcare requires establishing whether stated preferences are predictive of observed healthcare utilization. This study aimed to determine whether the number of alternatives in a DCE choice task should reflect the actual decision context, and how complex the choice model needs to be to predict real-world choices correctly at an aggregate and individual level. **Methods:** Two randomized controlled trials (RCTs) involving choices for influenza vaccination and colorectal cancer screening were used. Each RCT had three study conditions: DCE choice tasks with (i) two alternatives, (ii) three alternatives, or (iii) both. Two samples of 1,200 respondents each were randomly assigned to one of the conditions. Each respondent answered 16 DCE choice tasks (for the derivation of the decision model) plus a choice task mimicking the real-world choice (to keep the decision context the same). The data was analysed in a systematic way using random-utility-maximization (RUM) and random-regret-minimization (RRM) choice processes with scale and/or preference heterogeneity (based on 19 patient characteristics) and/or random intercepts. **Results:** Irrespective of the number of alternatives per choice task, the choice to opt for influenza vaccination or colorectal cancer screening was correctly predicted by DCE at an aggregate level, if scale and preference heterogeneity were taken into account. At an individual level, three alternatives per choice task and using heteroscedastic model plus preference heterogeneity seemed to be most promising, correctly predicting the real-world choice in 81.7% to 87.9% of the cases. No evidence was found that RRM outperformed RUM. **Conclusions:** Our study shows that DCEs hold the potential of being externally valid if at least scale and preference heterogeneity are taken into account. Further research is needed to determine if this result remains in other contexts, and to optimise choice prediction at an individual level.

CONCLUDING REMARKS, 16:00-16:15

BUSINESS SESSION, 16:15-17:30

Note: The Academy encourages all attendees to participate in the business session. Like presentations, participation is a practical indicator of service to the Academy and demonstrates a commitment to our mission and the field. Attendance is taken during the business session, because non-attendance for 2 years can trigger IAHPR membership to lapse.

## FREQUENTLY ASKED QUESTIONS

### Q: Can I become a member of the Academy?

A: Yes, IAHPR membership is based on participation. In order to receive a membership invitation, a researcher must give a presentation at an IAHPR meeting. To join the Academy as a tenured faculty member, a researcher must present at least two podium presentations. Underscoring this tenet of participation over dues-only membership, efforts are underway to entirely sustain the Academy without membership dues (i.e., an alternative source of sustainable revenue).

### Q: What will cause IAHPR membership to lapse?

A: There are four primary ways to cause a lapse in membership: (1) failure to fully attend a meeting (including its business session) for 2 consecutive years; (2) failure to review abstracts



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in a productive and timely fashion (tenured members only) or to participate in IAHPR educational and research activities (all members); (3) failure to renew membership; and (4) request for removal. The Academy is a member-driven organization and its participation requirement prevents the accumulation of “dead wood” and serves to deter persons who wish to be members in name alone. All members must be active in the field to retain their membership. If membership lapses, it can be reinstated by giving a presentation at an IAHPR meeting.

**Q: Are there any leadership positions among the Faculty?**

The faculty is comprised of tenured, tenure-track and student members and has no leadership positions. Like an editorial board, all tenured members are required to review abstracts each year and to participate in all science-related decisions. A few tenured members serve as Meeting Chairs and Directors on the Foundation Board; however, these are largely administrative positions. Our goal is to sustain a member-driven organization working together to support educational and research activities relating to health preferences. Infighting, territorialism, rants, grudges, and pettiness should be left at the door in order to focus on the science at hand and do what is best for the field of health preference research.

**Q: How are IAHPR activities organized?**

Three separate entities work in tandem to facilitate IAHPR activities: the Faculty, the Foundation, and the Office. Generally, the “Academy” refers to the organization as a whole. The Foundation is a 501(c)(3) organization within the Academy created to support the its mission. The Foundation has a Board of Officers/Directors, who deliberate over all resource-intensive activities (e.g., meetings), but the Board does not dictate science-related decisions. The Faculty are members of the Association, a separate 501(c)(3) organization within the Academy. The tenured faculty members review the abstracts, chair the meetings, and elect Directors to the Foundation Board from past meeting chairs, but the Association has no financial resources. The Office refers loosely to persons who execute the orders of the Foundation Board, such as maintaining the website and staffing the meetings. The Office has limited authority, little capital and no staff at this time; instead, its operation relies on freelancers on a project-by-project basis as needed.

**Q: How are IAHPR abstracts rated?**

A: At the start of the review process, the names of the authors are removed from the abstracts to allow for blinded review. Next, the meeting co-chairs assess whether each abstract meets the minimum criteria for review and request that all tenured member of the Academy review and rate each candidate abstract along a structured form. If a member has a conflict of interest (e.g., co-authorship or mentorship) or the abstract is beyond his or her subject matter capabilities, that member will use a rating of Abstention. Regardless, reviewers are asked to provide clear, written justification for their ratings on all candidate abstracts.

**Q: How are the IAHPR abstracts selected?**

A: Overall, the selection process is designed to be uniform, transparent, and member-driven. For each candidate abstract, ratings and comments are summarized and all identifiers are removed. The mean scoring (5\*Superior+3\*Good+2\*Acceptable-5\*Unacceptable) is applied uniformly, inherently ranking the candidate abstracts. Using this ranking, the top twelve abstracts are invited for podium presentation and the remaining abstracts with acceptable scores are invited for poster presentation. Alternates to the podiums are promoted, if needed. Abstract presentations are arranged by co-chairs. To assure some balance in the meeting breadth, the program has a minimum of three podium presentations for studies on preferences between health-related goods and services and three podium presentations for studies on preferences between health outcomes.

**Q: What is the difference between symposium, podium, and poster presentations?**

A: Poster and podium presentations are selected based on the abstract ratings of the tenured faculty. Symposium presentations are selected by the co-chairs and approved by the Board and tenured faculty. If accepted, each presentations has different requirements. For example, symposium presenters typically participate in panel discussions. Poster presenters give a brief oral presentation (i.e., elevator pitch) as well as respond to questions during the poster session. Unlike poster presentations, symposium and podium presentations count toward tenured membership.



# IAHPR MEMBERS IN ATTENDANCE

 John F.P. Bridges, B.Ec. M.Ec. Ph.D.

Profile 



Country

United States

Biography 

Summary 

Dr. Bridges is an Associate Professor in the Department of Health Policy and Management and International Health at the Johns Hopkins Bloomberg School of Public Health where he also serves as the co-Director of the Masters of Health Science in Health Economics and is a core-faculty member of the Center for Health Services and Outcomes Research.

IAHPR Membership 

Founding Member

 Esther W. de Bekker-Grob, PhD

Profile 




Country

Netherlands

Biography 

Summary 

Dr. Esther de Bekker-Grob is an Associate Professor of Health Economics & Health Preferences at the Erasmus University (Dept Health Policy & Management) and Erasmus Medical Centre (Dept Public Health), Rotterdam, the Netherlands. Additionally, she is co-director of the interfaculty Erasmus Choice Modelling Centre (ECMC). As a response to the strong push towards personalized medicine as well as dealing with scarcity in the allocation of healthcare require, more insight into patients' preferences for medical interventions and economic evaluations is needed. Dr. Esther de Bekker-Grob's research has contributed to these issues using (1) discrete choice experiments (DCEs) - an increasing popular quantitative approach to measure patients' preferences; and (2) semi-Markov and micro simulation models to determine the cost-effectiveness for medical interventions. Her research provided valuable insights that are useful in medical decision-making. It has covered a broad range of (more than 25) medical topics in primary healthcare, clinical care as well as public health. Moreover, Dr. Esther de Bekker-Grob has addressed methodological issues focusing on designing, modelling and validation of DCEs in healthcare. She has 50 peer-reviewed publications to date (Jan 2017) in high-quality journals, and has obtained about 3.5 million euro funding for her own line of research, including prestigious personal grants. Currently, among other projects, Dr. Esther de Bekker-Grob is working on 1) PREFER (acronym for 'Patient Preferences in Benefit and Risk Assessments during the Treatment Life Cycle'); a five year project funded equally by the Innovative Medicines Initiative (Europe's largest public-private initiative aiming to speed the development of better and safer medicines for patients) and by industry as in-kind contribution, and 2) VENI project entitled 'Is patients' choice predictable?' a four year personal grant funded by The Netherlands Organisation for Scientific Research (NWO).

IAHPR Membership 

Founding Member





Benjamin M. Craig, PhD

Profile *i*



Country

United States

Biography *i*

Summary *i*

Benjamin M. Craig, PhD, is an Associate Professor of Economics at the University of South Florida. He received his MS in Economics at the University of Texas at Austin in 1999 and his PhD in Population Health from the University of Wisconsin in 2003. His research focuses on health preference research and cancer economics with an emphasis on experimental design and analysis. He regularly teaches health economics, econometrics and outcomes research. In addition to IAHPR and the EuroQoL Group, Benjamin is an active member of the American Society of Clinical Oncology (ASCO), the International Health Economics Association (iHEA), the American Society of Health Economists (ASHE), the International Society for Pharmacoeconomics and Outcomes Research (ISPOR), and the International Society for Quality of Life Research (ISOQOL).

IAHPR Membership *i*

Founding Member

Affiliations *i*

Actions	▼ Job Title	▲ Institution	▲ Country
	Associate Professor	University of South Florida	United States



Terry Nicholas Flynn, PhD

Profile *i*



Country

United Kingdom

Biography *i*

Summary *i*

Terry N. Flynn, PhD, is the director of TF Choices, LTD, an independent international choice modelling consultancy offering services to companies, government bodies, organisations and individuals. TF Choices is the foremost globally outside of Australasia to offer Best-Worst Scaling (BWS) surveys (a more general version of the maxdiff model), which are rapidly becoming the most popular type of choice experiment. Terry is the co-author of the definitive textbook on BWS and recently published the first within-subject study to show that commonly used efficient designs may be flawed (see publications).

IAHPR Membership *i*

Founding Member



Catharina G.M. Groothuis-Oudshoorn, PhD

Profile *i*

Biography *i*



Country

Netherlands

Summary *i*

I'm a biostatistician with an interest in obtaining a methodologically sound way of patients', physicians and other stakeholder preferences to support decisions in health care. I have worked on projects, or had an advisory role on different levels of health care decision making, including the individual patient level, evaluation of health care services, benefits and risks assessment of drugs or devices and reimbursement of drugs. My expertise is the design, analysis and interpretation of preference studies, multi-criteria decision analysis studies. Additionally, I have more than 15 years of broad experience as a registered biostatistician in health services research on diverse applications in the biomedical field. This includes all steps of designing clinical and observational studies, analyzing and modelling clinical data and reporting, statistical learning and big data.

[https://www.researchgate.net/profile/Catharina\\_Groothuis-Oudshoorn](https://www.researchgate.net/profile/Catharina_Groothuis-Oudshoorn)

IAHPR Membership *i*

Founding Member



Rodolfo A. Hernandez

Profile *i*

Biography *i*



Country

United Kingdom

Summary *i*

Rodolfo holds a research fellow post at the Health Economics Research Unit (HERU), University of Aberdeen. He joined HERU in 2002 after completing an MSc in Health Economics (University of York). In addition, he has a first degree in economics (UNLP, Argentina). Between 2008 and 2013 Rodolfo was a RCUK Research Fellow holding a joint post between HERU and the Health Services Research Unit (HSRU). In 2016 he completed a PhD looking at how to use discrete choice experiment-generated willingness-to-pay measures within decision analytic models. His PhD case study was the monitoring of individuals with ocular hypertension at risk of developing glaucoma.

Currently, Rodolfo is involved in two RCTs (PurE, C-GALL), contributing to the Health Technology Assessment Reviews as well as exploring opportunities to develop further methodological work from his PhD.

IAHPR Membership *i*

Tenure-Track Member Since 2017





Michał Kosma Jakubczyk, PhD

Profile *i*



Country

Poland



Reed Johnson, PhD

Profile *i*



Country

United States

Biography *i*

Summary *i*

Michał Jakubczyk is an economist, working at the SGH Warsaw School of Economics, Poland. His research interests encompass decision theory, esp. when applied to health-related quality of life, and health technology assessment.

IAHPR Membership *i*

Tenure-Track Member Since 2017

Biography *i*

Summary *i*

Dr. Johnson has over 40 years of academic and research experience in health and environmental economics and currently am the most senior expert in the field of health applications of stated-preference research. He has served on the faculties of several universities in the United States, Canada, and Sweden, as Distinguished Fellow at Research Triangle Institute, and currently as Professor in Medicine at the Duke Clinical Research Institute, Duke University. As a staff member in the US Environmental Protection Agency's environmental economics research program during the 1980s, he helped pioneer development of basic nonmarket valuation techniques. These techniques now are widely used for benefit-cost and benefit-risk analysis in health and environmental economics.

Dr. Johnson also has pioneered applications of advanced stated-preference methods to quantify patients' and caregivers' preferences for health-care outcomes. His current research involves estimating general time equivalences among health states and patients' willingness to accept side-effect risks in return for therapeutic benefits. He led the first FDA-sponsored study to quantify patients' willingness to accept benefit-risk tradeoffs for new health technologies. The results are being used to inform reviews of regulatory submissions and helped support recent FDA guidance on incorporating patient preferences in regulatory assessments of new health technologies.

At Duke Dr. Johnson has worked closely with Dr. Shelby Reed to establish a new Preference Evaluation Research Group (PrefER) in the Duke Clinical Research Institute's Center for Clinical and Genetic Economics. His appointment in Duke Medicine has facilitated access to and collaborations with leading clinical experts in orthopedics, neurology, psychiatry, oncology, dermatology, and cardiology, as well as access to patient respondents receiving care in the Duke healthcare system.

IAHPR Membership *i*

Founding Member

 **Christin Juhnke, B.Sc., M.A.**

Profile 



Country

Germany

Biography 

Summary 

Christin Juhnke received her degrees from Hochschule Neubrandenburg. She holds a Bachelor's in Public Health and Administration. In 2011 she received her Master's degree in Social and Healthcare Management (magna cum laude).

In 2011 Christin joined the Institute Health Economics and Health Care Management (founder: Dr. Axel C. Mühlbacher) at Hochschule Neubrandenburg as research fellow. Her research focuses on patient preferences, and organized health care systems.

IAHPR Membership 

Tenure-Track Member Since 2017

 **Axel Christian Mühlbacher, PhD**

Profile 



Country

Germany

Biography 

Summary 

Axel Mühlbacher, Dr. rer. oec., Dipl. Kfm., is a professor of health economics and health care management at Hochschule Neubrandenburg. Since 2012, he has been a Senior Research Fellow at the Center for Health Policy & Inequalities Research at Duke Global Health Institute at Duke University, Durham, North Carolina, USA. Axel Mühlbacher was a 2010–11 Harkness Fellow in Health Care Policy and Practice at Duke Clinical Research Institute and Fuqua School of Business, Duke University.

Prior to founding the Institute of Health Economics and Health Care Management at Hochschule Neubrandenburg in 2006, Axel had been an assistant professor in the department of economics and management at Technical University Berlin (2001–2004) and an associate professor of economics, health economics, and econometrics (C2) at Hochschule Neubrandenburg (2004–2006).

Axel's research focuses on patient preferences, comparative effectiveness/economic evaluation methods, and organized health care systems. Between 2009 and 2013, he was head of the pilot study on "conjoint analysis" on behalf of the German Institute for Quality and Efficiency in Health Care (IQWiG).

In 1996 he graduated from the Eberhard-Karls University, Tübingen, where he earned a degree in business administration and economics. That same year, he was appointed as a research fellow at the German Coordinating Agency of Public Health (GCAPH) at Albert-Ludwig University, Freiburg. In 1999 he joined the research training group, "Demand-oriented and cost-effective Health Care Fundamentals of optimal Allocation" (Graduiertenkolleg), at FU, HU, TU Berlin, with a scholarship from the German Research Foundation (DFG). In 2001 he graduated with a doctorate in economics and business administration (Dr. rer. oec.), with a thesis on "Management and organization of integrated care –an economic analysis of health care delivery networks" (summa cum laude).

IAHPR Membership 

Founding Member



Mark Oppe, PhD

Profile *i*



Country

Netherlands

Biography *i*

Summary *i*

After obtaining my MSc in astrophysics in 2001, I started to work in health economics as a researcher at Erasmus University Rotterdam. Currently I'm working on health preference research using EQ-5D as a senior scientist at the EuroQol Research Foundation.

IAHPR Membership *i*

Founding Member



Jan Ostermann, PhD

Profile *i*



Country

United States

Biography *i*

Summary *i*

Dr. Ostermann is an associate professor at the Arnold School of Public Health at the University of South Carolina, and adjunct associate professor at the Duke Global Health Institute and Duke University's Center for Health Policy and Inequalities Research. I hold a PhD in Health Policy and Administration with a minor in economics. I have engaged in domestic and international research and evaluation for more than a decade. My research focuses on the intersection of health policy and health economics, involves children and adults, and includes observational and intervention studies in high, low, and middle income countries.

IAHPR Membership *i*

Founding Member





Matthew Quaife, BSc, MSc

Profile *i*



Country

United Kingdom

Biography *i*

Summary *i*

I hold an ESRC studentship to research Health Economics and Infectious Disease Modelling. I have an undergraduate degree in Business and Financial Economics from the University of Leeds and a Masters in Public Health from the London School of Hygiene and Tropical Medicine (LSHTM). I was previously a financial economist and project accountant.

I have a keen interest in applying demand-side and behavioural economics to understand and solve public health problems. My research aims to explore how economic and econometric methods can be used to maximise the impact of HIV prevention programmes. My current interests include the use of quasi-experimental methods (including instrumental variables and synthetic controls), accounting for the external validity of discrete choice experiments in their practical application, and the integration of economic and mathematical models.

I have recently returned from running two discrete choice experiments in South Africa which aim to assess demand for multipurpose HIV prevention products among general and high-risk populations. I am using uptake predictions from these experiments to construct impact and cost-effectiveness models to assess the potential of new products.

An additional strand of research explores incentives in the market for commercial sex, estimating how new HIV prevention products might change client and provider behaviours.

I hold a joint appointment as a visiting researcher at Wits RHI, Johannesburg, and completed a secondment to the Behavioural Insights Team at Public Health England.

I was recently runner-up in LSHTM's "Three Minute Thesis" competition - my talk can be found here: <https://vimeo.com/166939551>.

I was also invited to present at the ESRC National Centre for Research Methods Festival 2015 on "What are... discrete choice experiments?" - this 13min talk can be found here: <https://www.youtube.com/watch?v=wm2wJfIXG7E>

IAHPR Membership *i*

Student Member Since 2017



Oliver Rivero-Arias, DPhil, MSc

Profile *i*

Biography *i*



Country

United Kingdom

Summary *i*

Oliver Rivero-Arias is the Senior Health Economist at the National Perinatal Epidemiology Unit having previously held appointments at the Health Economics Research Centre (HERC), University of Oxford during the period 2002-2013. His main research interest concerns the evaluation of cost-effectiveness methodology and the conduct of applied economic studies in the perinatal and maternal health area. He has been involved in the evaluation of methods to handle missing data in cost-effectiveness analysis, the economic implications of cost-effectiveness analysis alongside multinational clinical trials, the development of algorithms to map available data into quality of life measures, and the elicitation of preferences for health decision-making. He has recently completed a study (currently under review) evaluating preferences of adolescents and adults to EQ-5D-Y health states using best-worst scaling and is currently a principal investigator of the valuation exercise to obtain a value set for the EQ-5D-Y in the UK funded by the EuroQol Research Foundation.

IAHPR Membership *i*

Tenure-Track Member Since 2017



Koonaal Shah

Profile *i*

Biography *i*



Country

United Kingdom

Summary *i*

Koonaal is a health economist based in the UK. His research interests include the use of social value judgements in health care decision making and health state valuation.

IAHPR Membership *i*

Student Member Since 2017



Fern Terris-Prestholt, PhD

Profile *i*

Biography *i*



Summary *i*

Fern's work focuses on the economics of new technology introduction for the prevention, diagnosis and treatment of HIV and related conditions (such as STIs), primarily in low and middle income countries.

IAHPR Membership *i*

Tenure-Track Member Since 2017

Country

United Kingdom



Janine Astrid van Til, PhD

Profile *i*

Biography *i*



Summary *i*

Janine van Til is a health scientist by training. Janine started her work in preference research with her PhD project called "Integrating Preferences into decision making", which was focused on including values in decision making in the treatment of ankle-foot impairments in stroke patients. Janine is currently working as an assistant professor in the department of Health Technology and Services Management at the University of Twente in the Netherlands. Her research is focused on using preference methods, mainly discrete choice experiments, best-worst scaling and multi-criteria decision analysis to include the stakeholder perspective in health care decisions in the clinical, management and societal context. She has more than 10 years of experience in the design and analysis of stated preference surveys, mainly in the field of neurology, oncology and cardiology. Janine is the main supervisor of two PhD students in the field of patient preference research, and involved in the training of five other PhD students. Over the last five years she has successfully written multiple grant proposals, project managed national and international projects and worked as a consulting researcher in international projects. She is also the main lecturer of the course "Patient Preference Modelling" in the master Health Sciences at the University of Twente. In her non-research time, Janine likes to read books on the psychology of decision making and fantasy novels, imagines herself doing lots of sports and taking holidays, and is the proud mother of two very sassy boys.

Country

Netherlands

IAHPR Membership *i*

Tenure-Track Member Since 2017





Caroline M Vass, MSc, PhD

Profile *i*

Biography *i*



Country

United Kingdom

Summary *i*

In 2011, Caroline was awarded a Doctoral Fellowship to investigate the framing of risk attributes in discrete choice experiments (DCEs). The PhD sought to understand how competing risk presentation formats affected cognition, decision rules, and the (robustness of) the valuations derived, through the use of traditional quantitative analyses, qualitative research and eye-tracking methods. In 2014, Caroline won a Lee B Lusted Student Prize for her poster presentation at the Society for Medical Decision Making's Annual North American Meeting. Caroline is currently working at The University of Manchester on a 6-year research programme called 'Mind the Risk', co-coordinated by The Centre for Research Ethics & Bioethics at Uppsala University. The overall aim of the project is to support healthcare providers, patients and policy makers when it comes to the evaluation and handling of genetic risk information and continues the use of DCEs as a primary method.

IAHPR Membership *i*

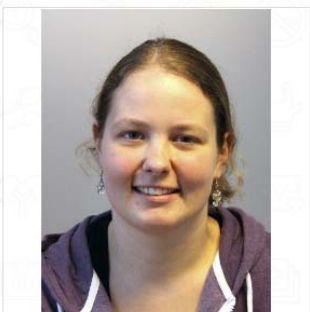
Student Member Since 2017



Marieke G.M. Weernink, MSc

Profile *i*

Biography *i*



Country

Netherlands

Summary *i*

More insight into patient's preferences for medical interventions and treatments is needed as a response to the strong push towards personalized medicine as well as dealing with scarcity in the allocation of healthcare resources. In the last four years the PhD research of Marieke Weernink has contributed to these issues in Parkinson's Disease and prostate cancer. Using validated preference elicitation techniques such as discrete choice experiment, best-worst scaling and multi-criteria decision analysis the perspective of the patient on health care innovations and aspects of treatment was revealed. Additionally, Marieke Weernink addressed methodological issues focusing on designing, modelling and validation of preference techniques in health care.

IAHPR Membership *i*

Student Member Since 2017

Profile *i*



Country

Netherlands

Biography *i*

Summary *i*

Risk communication, choice context and choice task presentation in Stated Preference studies

IAHPR Membership *i*

Tenured Member Since 2017

Profile *i*



Country

United Kingdom

Biography *i*

Summary *i*

Jennifer Whitty is Professor of Health Economics and Head of the Health Economics Group at the Norwich Medical School, Faculty of Medicine and Health Sciences, at the University of East Anglia, UK. She is also an Honorary Professor at the University of Queensland and an Adjunct Professor at Griffith University in Australia.

Jennifer is an applied health economist with a professional background in pharmacy. She leads multidisciplinary research and consultancy in health economics and decision-making. Jennifer's research focusses in particular on evaluating preferences, choices and values around health and healthcare delivery and using these preferences to inform economic evaluation and health care decision-making. She is an expert in the application of choice-based preference elicitation approaches such as the discrete choice experiment, and has also applied deliberative methods such as the Citizens' Jury. Jennifer's research is supported by competitive and industry funding, including the Australian Research Council (ARC), National Health and Medical Research Council (NHMRC), and Departments of Health.

Jennifer has authored over 100 peer-reviewed journal publications and is a member of the Editorial Board for the international journals "Medical Decision Making" and "Applied Health Economics and Health Policy". She makes strong contributions to professional development in the health economics and preference elicitation fields through research student supervision and invited membership of the International Society for Pharmacoeconomics and Outcomes Research Distance Learning Faculty. She has provided direct input to Government policy-making, including consultancy to the Australian Department of Health contributing to their health technology assessment processes. Jennifer is a member of the Health Services Research Board hosted at Universities UK (HSRUK), which brings together those who produce and use evidence to improve health services.

IAHPR Membership *i*

Founding Member



## NON-MEMBER PRESENTERS AND ATTENDEES

Jorge E. Araña, PhD in Economics, Associate Professor in Economics., Universidad of Las Palmas de Gran Canaria, Las Palmas de Gran Canaria, Spain

Luke Barry<sup>β</sup>, BCom, MSc, PhD Candidate, NUI Galway, Galway, Ireland

G P Bennett, BSc(Hons)Computational Science and Mathematics (Univ. Leeds); MBA (Univ. Hull), Managing Director & CEO, The Stats People Ltd, Sevenoaks, UK

Anna Hobbins<sup>β</sup>, B.Comm., M.Sc. (Health Economics), PhD Candidate, NUI Galway, Galway, Ireland

Ellen Margreet Janssen, PhD, Assistant Scientist, Johns Hopkins Bloomberg School of Public Health, Baltimore, United States

Rosanne Janssens<sup>β</sup>, MSc Biomedical Sciences, PhD researcher Pharmaceutical Sciences, University of Leuven, Leuven, Belgium

Dan Kelleher<sup>β</sup>, B.Comm, MSc., PhD Student, NUI Galway, Galway, Ireland

Jay Magidson, Ph.D., President, Statistical Innovations Inc., Belmont, USA

Kevin Patrick Marsh, PhD, Senior Research Scientist and Executive Director, Evidera Inc, London, UK

Peter Grant Moffatt, PhD, Professor of Econometrics, UEA, University of East Anglia, Norwich, UK

Divya Mohan<sup>β</sup>, MHS, B.Eng., Research Assistant, Johns Hopkins University, Baltimore, USA

Jason Ong<sup>β</sup>, MBBS, MMed, PhD, London School of Hygiene and Tropical Medicine Researcher, London School of Hygiene and Tropical Medicine, London, England

Simon Peters, PhD, Lecturer in Econometrics, University of Manchester, Manchester, M13 9PL

Stephen Wesley Poteet<sup>β</sup>, M.A. in Economics, Graduate Student, Univ. of South Florida, Tampa, USA

Juan Manuel Ramos-Gofi<sup>β</sup>, MCs, Senior Researcher, EuroQol, Tacoronte, Spain

Andrew Sadler, M.Sc., Research Assistant, Hochschule Neubrandenburg, Neubrandenburg, Germany

Tabea Schmidt-Ott<sup>β</sup>, B.Sc., Student, London School of Economics and Political Science, London, UK

Karin Schölin Bywall<sup>β</sup>, MSc, PhD student, Uppsala University, Uppsala, Sweden

Vikas Soekhai<sup>β</sup>, MSc, LL.M., PhD Student, Erasmus University Medical Center Rotterdam/Erasmus University Rotterdam, Rotterdam, The Netherlands

Tommi Tervonen, PhD, Research Scientist, Evidera Inc, London, UK

M.C.W. (Melissa) Vaanholt<sup>β</sup>, MSc, PhD Candidate, University of Twente, Enschede, The Netherlands

Eline van Overbeeke<sup>β</sup>, MSc, PhD researcher, KU Leuven, Leuven, Belgium

Valerie Yelverton<sup>β</sup>, BSc, Student, Hochschule Neubrandenburg, Neubrandenburg, Germany

Hong Il Yoo, BEc, PhD, Associate Professor in Economics, Durham University, Durham, UK

Mo Zhou<sup>β</sup>, PhD, Fellow, FDA, Silver Spring, USA

*Welcome To*





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