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Deborah A. Marshall, Professor, Cumming School of Medicine, University of Calgary
Calgary, AB, Canada

Speakers:
• Eric Low, Independent Healthcare Consultant, Eric Low Consulting
  Haddington, Scotland, United Kingdom
• Andrii Danyliv, Head HEOR Innovation, Novartis, Basel, BS, Switzerland
• John F. P. Bridges, Professor, Department of Biomedical Informatics, Ohio State University
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Chat Moderators:
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• **Deborah A Marshall**
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  Calgary, AB, Canada
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• **Alice Bast**, CEO, Beyond Celiac, Ambler, PA, USA
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• **Ellen Janssen**, Associate Director, Benefit-Risk, Janssen Research & Development, LLC, Baltimore, MD, USA
• **Eric Low**, Independent Healthcare Consultant, Eric Low Consulting, Haddington, Scotland, UK
How do you describe your role in the context of preferences?

1) Researcher  
2) Clinician  
3) Industry representative  
4) Patient organization  
5) Regulatory agency  
6) HTA or payer agency  
7) Patient, family member or caregiver of patient  
8) Other

Please choose the ONE that best describes your primary role.
ISPOR Good Practices Task Force Reports on Preferences

- Conjoint Analysis Applications in Health - A Checklist (Bridges et al, 2011) #5 most cited article in *Value in Health*
- Constructing Experimental Designs for Discrete-Choice Experiments (Johnson et al, 2013) # 8 most cited article in *Value in Health*
- Statistical Methods for the Analysis of Discrete-Choice Experiments (Hauber et al, 2016) # 43 most cited article in *Value in Health*

Task force currently underway in addition to this task force:
Quantitative Benefit Risk Assessment Emerging Good Practices
This Task Force Builds on….

- 3 ISPOR Good Practices Task Force Reports on preference methods
- ISPOR Special Interest Groups/Working Group activities
- Medical Device Innovation Consortium (MDIC) reports and framework
- FDA/CDRH guidance documents and case studies
- EMA reports and development of guidance
- IMI-PREFER consortium activities, publications, and case studies
- Research literature on preference methods and applied examples
- Efforts within HTAi and HTA agencies
- International Academy of Health Preference Research
Motivation and Rationale for this Good Practices Task Force

- Need for a framework by which a variety of decision makers could use patient preferences
- Make patient preference studies more relevant to decision makers
- Provide guidance on the application of methods that are fit-for-purpose
- Improve decision making in healthcare

Gap: Improving Decision Making Using Preferences

Previous Preferences Task Forces:
Improving methods

This Task Force:
Using preferences in decision making

Change the conversation
What elements should be included in the framework?

1) The context  
2) The population  
3) The method  
4) The data  
5) The purpose  
6) Additional elements not listed above  
7) None of the above

Please choose ALL that apply.
2

Eric Low
Independent Healthcare Consultant
Eric Low Consulting
Haddington, Scotland, UK
What is the problem?

- There is no cure for most diseases. Therefore, treatments need to be viewed in terms of how long they are able to control a disease or relieve symptoms and how they affect a patient’s quality of life.

- For some treatments, there is not enough clinical evidence or experience to know exactly what to expect. Furthermore, no two patients are alike. Predicting results for most treatments is a matter of probabilities – there are no guarantees.

- Many treatments have potentially serious side-effects; some treatments can lead to complications that may prove to be fatal. Patients, their families, researchers and healthcare professionals may have different perspectives and preferences about what constitutes acceptable risk. They may also have different views about what is an acceptable outcome of treatment.

- Most health systems have very scarce resources and need to allocate these to ensure the most health benefit for the population as a whole.

- R&D is almost always eye-wateringly expensive. A phase III clinical trial can often cost in excess of $300-$400m, but still most fail. For those that succeed, it’s challenging to interpret results.
Therefore, it is important to ask patients about their preferences.

Thank you to Zac Pemberton-Whiteley CEO of Leukaemia Care for the cartoon.

“We’re not competitor-obsessed, we’re customer-obsessed. We start with what the customer needs and we work backwards.” — Jeff Bezos
Who can benefit from patient preference data?

- Investors
- Healthcare professionals
- Researchers
- HTA and Payers
- Patients and their families
- Health systems
Patient preference research should be embedded across the entire bench to bedside continuum.

If we expect patients to comment on the benefits at the evaluation phase we need to ensure that the endpoints are meaningful to them in the first place.
Patient preference data can shine a very bright torch on what matters most to patients.
Patient preference data can shine a very bright torch on what matters most to patients.

Myeloma Patient Value Mapping: A Discrete Choice Experiment on Myeloma Treatment Preferences in the UK

Background: Myeloma is an incurable life-threatening haematological cancer. Recent treatment developments have seen improvements in survival; however, while patients are living longer, they are living with symptoms and treatment side effects.

Objective: To evaluate myeloma patients’ preferences for treatment using a discrete choice experiment (DCE). This study set out to define the relative importance of key treatment attributes, characterize the risk-benefit trade-offs in patients’ decision-making, and to analyze the predictive power of basic demographic factors.

Methods: Four hundred seventy-five myeloma patients in the UK were invited to participate by Myeloma UK. Data were collected using DCEs through an online survey. The DCEs presented patients with 10 choice scenarios, each with 2 treatment options described by 3 attributes, and a “no treatment” option. The DCE data were modeled using a latent class model (LCM). The effects of demographic characteristics were also examined.

Results: Not surprisingly, average survival was most important to all patients but there were significant contrasts between the class preferences. The LCM resulted two main classes of patients. Patients in Class 1 placed greater importance on average survival and moderate-side effects, whereas patients in Class 2 focused on the mode of administration and the average out-of-pocket costs. Patients living with others and those diagnosed in the last 5 years were more likely to be in Class 1.

Conclusions: Different treatment features were not valued equally among myeloma patients. This has important implications for healthcare policy decisions and could be used to guide decisions around the value of new myeloma medicines.

Keywords: discrete choice experiment, patient preferences, myeloma, health technology assessment, dashboards.
Andrii Danyliv
Head HEOR Innovation, Novartis
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Disclaimer

- Andriy Danyliv, PhD, is an employee of Novartis AG.
- These slides are based on publicly available information.
- The views and opinions expressed in this presentation are those of the presenter and do not necessarily reflect the official policy or position of Novartis or any of its officers.
- The content of this slide deck is accurate to the best of the presenter’s knowledge at the time of production.
Examines European decision makers’ consideration and use of quantitative preference data

- documentary evidence identified through a literature and regulatory websites review, and via key opinion leader outreach;
- a survey of staff working for agencies that support or make healthcare technology decisions

**Key findings:**

- Preference data utilization was identified in **22 countries** and at European level (but not for market authorization)
- The most prevalent use is to inform **health-related quality of life** (19 countries)
- **Other uses:**
  - Value other [than QALY] impact on patients (EN&WAL, NL, SC; GE; SE)
  - Incorporate non-health factors into reimbursement (AT, HU, IT, BE, FR)
  - Estimate opportunity cost (NL, SE)
- **Pilot projects** in 6 countries with the focus on MCDA and choice-based methods (BE, DK, GE, IE, NL, UK)
- Need for better alignment between decision makers
There is no single well-established guidance for the use of patient preferences in decision-making.

- Regulators, HTA bodies, as well as multi-stakeholder initiatives, expressed their views in guidance documents and/or statement papers.

- The latest multi-stakeholder initiative, IMI PREFER, plans to deliver recommendations in 2021.

### Regulators

- FDA
- EMA

- have issued guidance
- guidance expected

### HTA

- NICE (UK)
- EUnetHTA
- (CA) (GE) (BE)
- (SCO) (NL) (SWE)
- (IT) (AU) (HU)
- (FR) (DAN) (IRL)

### Cross-functional initiatives

- IMI PREFER
  - LSE research group (2019)
  - WHO work group (2019)
  - EUPATI (2018)
  - Integrate HTA (2016)
  - ...

FDA 2016 PPI guidance is a result of multi-stakeholder collaboration and informs further guidance of their use in benefit-risk assessment.

- 2012: Center for Devices and Radiological Health’s (CDRH) Guidance on Benefit-Risk Assessment
- 2013: FDA launched the “Patient Preference Initiative”
- 2015: CDRH and CBERs’ collaboration with Medical Device and Innovation Consortium (MDIC) issued a report in 2015:
  - Patient Preference Information
  - Patient Centered Benefit-Risk (PCBR) Framework by MDIC
**PPI guidance recommends:** voluntary submissions of PPI, both qualitative and quantitative, may be useful with benefit-risk assessment

- **Purpose & uses:**
  - Identify the most important benefits & risks
  - Relative importance of the attributes (incl. MCI effect size)
  - Help understand heterogeneity (subgroups)

- **PPI may be useful** when patient decisions are preference sensitive while:
  - multiple options exist, none is clearly superior;
  - evidence is considerably uncertain or variable;
  - patients’ views are heterogeneous or differ from HCPs

- The guidance outlines recommended qualities of patient preference studies (PPS) to be included as valid scientific evidence.

- Differentiates PPI from PRO and drafts accepted methods for PPI.

- The guidance helps to understand “how PPI may inform decision making via several examples”.

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**2016**

**Patient Preference Information – Voluntary Submission, Review in Premarket Approval Applications, Humanitarian Device Exemption Applications, and De Novo Requests, and Inclusion in Decision Summaries and Device Labeling**

Guidance for Industry, Food and Drug Administration Staff, and Other Stakeholders


This document will be in effect as of October 21, 2016.

The draft of this document was issued on May 18, 2015.
EMA, thus far, has viewed ‘preferences’ in the context of decision theory exploring several preference elicitation methods...

Swing weighting or MACBETH in MCDA context (Benefit-Risk Methodology project 2009-2014). Conjoint analysis was deemed as (moderately) useful to explicate trade-offs among effects, especially for eliciting patient preferences.

More recently, EMA has been exploring the use of stated preferences in multiple myeloma patients (swing weighting).

Recommendations:
... explore further methodologies for benefit/risk analysis (BRA), including a wide range of quantitative and semi-quantitative tools, and involving experts and assessors.

Benefit-Risk Methodology Project
- Development and testing of tools and processes for balancing multiple benefits and risks as an aid in regulatory decisions about medicinal products

WP1: Current practice of BRA
WP2: Review of current tools/methods
WP3: Field tests
WP4: BRA tool development
WP5: Training package

“Although the usefulness of stated preference studies in drug regulation is still not well established, such studies, along with other methods such as focus groups and expert opinions, have the potential to become an important tool for gathering patient views in a systematic way to inform regulatory and treatment decisions”

- To develop guidance on the roles of patient preferences in regulatory decisions
- To consider and build on existing good practice guidance (such as that issued by ISPOR), guidance provided by the FDA, and the results of IMI PREFER
NICE’s view on PPI in HTA has evolved to a clear vision in 2020.

The aim of this project was to undertake research to explore how quantitative methodology for eliciting patient preferences might be used in HTA.

Key Points

- Review of the PP literature and engagement with the stakeholders, primarily in myeloma.
- PPI is mostly anecdotal, and it is not always obvious how it impacts decision making.
- There is a growing interest in quantitative techniques to improve transparency.
- There is no ‘one-size-fits-all’ solution for generating PP data.
- DCE stands out as the most robust approach to elicit patient preferences for different treatment options, but it may not always be appropriate.
- Selection of the most appropriate method may depend on the specific research question.
- Not every recommendation will benefit to the same degree from PPI.

Use of Patient Preference Studies in HTA Decision Making: A NICE Perspective

Jacoline C. Bouvy1, Luke Cowie2, Rosemary Lovett1, Deborah Morrison3, Heidi Livingstone4, Nick Crabb1,3

2020: The Patient - Patient-Centered Outcomes Research

https://doi.org/10.1007/s40271-019-00408-4

Key Points

- Methods that allow the measuring of patient preferences in a quantitative manner might offer valuable insights to health technology assessment bodies, especially when patient preference studies are representative of the wider patient population.
- Currently, the National Institute for Health and Care Excellence does not see a role for quantitative patient preference data ...
- Notwithstanding, patient preference studies could be considered alongside other types of evidence, especially for appraisals that involve distinctly different treatment options or are indicated for a heterogeneous population or for technologies that have important non-health benefits.
**IMI PREFER** – Patient preferences in benefit risk assessments during the drug life cycle

**Objectives**

Establish **recommendations** to support development of guidelines for:

- Industry
- Regulatory authorities
- HTA bodies & payers

on how and when to include patient preferences on benefits and risks of medical products.

**Process**

1. Conduct clinical case studies
2. Assess Methods
3. Develop joint EMA & EUnetHTA qualification
4. Develop recommendations

**Case studies**

**3 Core Academic case studies**
- Rheumatoid Arthritis (RA)
- Neuromuscular Disorders (NMD)
- Lung cancer

**5 Academic case studies**
- Glucose monitoring
- Gene therapies
- Attribute attendance in DCE
- PP for biologics
- Multiple Myeloma

**3 Industry case studies**
- COPD
- Antithrombotic treatments following MI
- Osteo-Arthritis and lower back pain
IMI PREFER – Key work streams and expected output

• Finding out what stakeholders want
  o literature review,
  o interviews and focus group meetings with patient organisations, physicians, regulatory authorities, health technology assessment bodies, industry experts and academics

• Identifying methods and criteria
  o In total, **32 unique methods** were identified: 10 exploration and 22 elicitation
  o IMI PREFER shall focus on **5 elicitation methods** that cover most uses: DCE, BWS object case and profile case, threshold technique, and swing weighting

• **Final Recommendations** key components:
  ➢ Framework for patient preference studies
  ➢ Recommendations on how to involve patients and other stakeholders
  ➢ Preference exploration and elicitation methods

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John F. P. Bridges
Professor, Departments of Biomedical Informatics, Ohio State University Columbus, OH, USA
Rationale for the Framework

- Many methods and approaches are now available to generate or synthesize information on patient preferences.
- There is a growing number of methodological guidance documents for researchers to improve studies, techniques, and publications.
- The greatest imperative now is to make information on patient preferences more useful to decisions makers (broadly defined) and in a variety of specific decision-making contexts.
What do we need?

- Information on patient preferences needs to be **fit-for-purpose**.
  - Relevant and useful to decision makers
  - Critical appraisal, validity and reliability, transparent

- We need tools and resources to:
  - Better communicate with decision makers and stakeholders
  - Focus of the utility of our data for decisions makers and decisions in healthcare
  - Engage all relevant stakeholders
  - To promote a **culture change** (move from getting published to getting used)
What type of Framework?

• Simple framework
  – PICOTS
  – REAIM

• Complex frameworks
  – Consolidated Framework for Implementation Research (CIFR)
  – International Patient Decision Aid Standards (IPDAS)

• Reporting of studies
  – CONSORT
  – PRISMA
  – CHEERS
REAIM

- **Reach** – How do I reach the targeted population with the intervention?
- **Effectiveness** – How do I know my intervention is effective?
- **Adoption** – How do I develop organizational support to deliver my intervention?
- **Implementation** – How do I ensure the intervention is delivered properly?
- **Maintenance** – How do I incorporate the intervention so that it is delivered over the long term?
CDRH guidance

• Patient Centeredness
• Relevance
• Good Research Practices

General Principals

Study Design

• Representativeness
• Logical Soundness
• Effective benefit/risk communication
• Minimal cognitive bias

Technical

Practical

• Heterogeneity
• Robustness of analysis

• Study Conduct
• Comprehension by Participants

IMI-PREFER Framework *(work in progress)*
Top down or bottom up (Post MDIC)

Sponsor

Product BR profile

PPI & other SMEs

Patient (pre-test)

Final instrument

Draft attribute table & instrument

Inputs

Patient (pre-test)

PPI & other SMEs

Final instrument

Regulator

Patients
ISPOR Framework (V2)

i. The context

ii. The purpose

iii. The population

iv. The method

v. The impact
ISPOR Framework (V2) – Key questions

• i. The context – How do decision get made, what are the legal, ethical, and social constraints, and what stakeholders are involved?

• ii. The purpose – What role might preference information play in decision making and how/when/why is it most useful to decision makers?

• iii. The population – To whom does the decision apply and to which people does the decision directly and indirectly effect?

• iv. The method – How are decision makers and stakeholders engaged in choosing, applying, and critically evaluating the approach taken?

• v. The impact – Are the data presented so as to maximize the utility and value of the information for decision makers and stakeholder?
Next steps

• We want **broad input** by engaging the ISPOR membership.
• Continue to refine and **build consensus** on the Framework.
• Draft **task force report** (<5,000 words)
• Again, get **broad input** from the ISPOR membership.
• Finalize and publish the task force report in *Value in Health*
Join Our Task Force Review Group!

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   www.ispor.org
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Task Forces

Task forces develop ISPOR’s Good Practices Reports, which are highly cited expert consensus guidance recommendations that set international standards for outcomes research and its use in healthcare decision making.

- Consolidated Health Economic Evaluation Reporting Standards (CHEERS) II
- Joint HTAI - ISPOR Deliberative Processes for HTA NEW
- Machine Learning Methods in HEOR
- Measurement Comparability Between Modes of Administration of PROMs
- Measuring Patient Preferences for Decision Making
- Performance Outcome (PerfO) Assessments
- Systematic Reviews with Cost and Cost-Effectiveness Outcomes

Join a Task Force Review Group

All ISPOR members who are knowledgeable and interested in a task force’s topic may participate in a task force review group. To join a task force review group:
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- Biosimilars
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- Nutrition Economics
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- Precision Medicine & Advanced Therapies
- Rare Disease
- Real World Evidence (RWE)
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Discussion
Thank you

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