Reflections on a Multi-Country Modified Delphi Panel for Establishing Consensus on Epidemiology and Treatment Pathways: A Prostate Cancer (PCa) Case Study

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Key takeaway

This online modified Delphi panel on early PCa epidemiology and treatment pathways revealed variability in responses, attributable to true differences in panellists' clinical experience, alongside factors relating to our methodology. Upon reflection, incorporating interactive discussions, along with pre-Delphi panel scoping and piloting activities, may support consensus-building in future Delphi panels.

Conclusions

This online modified Delphi panel experienced limitations in achieving consensus on some questions.

Whilst this variability may stem from inherent differences in panellist experience, caseload and between-country differences, we conclude that the absence of direct interaction between panellists and the research team contributed to differences in interpretation, ultimately resulting in no consensus where, *a priori*, it may have been expected to be achieved.

Piloting the Delphi panel questionnaire and conducting an initial phase of qualitative research prior to full dissemination could have enhanced the clarity and focus of the questions, potentially improving the likelihood of achieving consensus.

Our learnings provide insights for optimally designing future consensus-seeking research.

ABBREVIATIONS

mPCa: metastatic prostate cancer; **PCa:** prostate cancer; **SD:** standard deviation.

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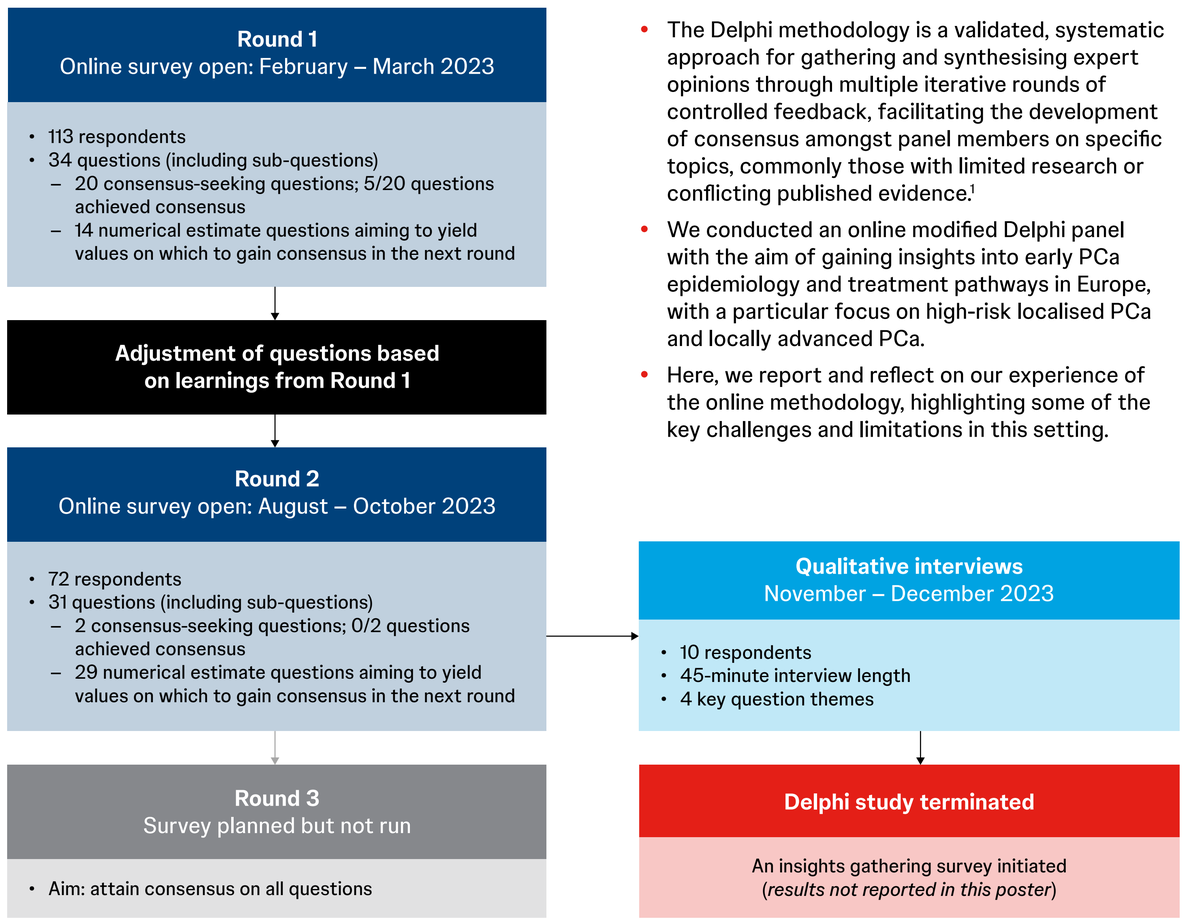
DISCLOSURES

CB: Employee of Costello Medical, which received payment from Johnson & Johnson Innovative Medicine for analytical services for this study; **VF**, **AG**, **PR:** Johnson & Johnson Innovative Medicine employee and shareholder; **EL:** Acted as an expert consultant and/or received travel fees from Johnson & Johnson, Astellas, Bayer, IPSEN, Recordati, AstraZeneca and MSD; **SC:** Acted as an expert consultant and/or received travel fees from Roche Pharmaceuticals, AstraZeneca, Medac, Dr. Sennewald Medizintechnik, Elekta, Accuray, Bristol Myers Squibb, Brainlab, Daiichi Sankyo, Icotec, Carl Zeiss Meditec, HMG Systems Engineering, Johnson & Johnson Innovative Medicine and CureVac; **PS:** Acted as an expert consultant and/or received travel fees from Astellas, Bayer, Johnson & Johnson Innovative Medicine, Sanofi, Novartis, Ferring, Ipsen, Recordati, Accord-Healthcare, Takeda.

Figure 1. Modified online Delphi panel methodology



Introduction

- The Delphi methodology is a validated, systematic approach for gathering and synthesising expert opinions through multiple iterative rounds of controlled feedback, facilitating the development of consensus amongst panel members on specific topics, commonly those with limited research or conflicting published evidence.[1]
- We conducted an online modified Delphi panel with the aim of gaining insights into early PCa epidemiology and treatment pathways in Europe, with a particular focus on high-risk localised PCa and locally advanced PCa.
- Here, we report and reflect on our experience of the online methodology, highlighting some of the key challenges and limitations in this setting.

Methods

- A streamlined, modified version of the classical Delphi method was employed online, with up to three survey rounds planned (**Figure 1**).
- A steering committee of three expert clinicians, specialising in urology and radiation oncology, reviewed the study protocol and questionnaires, and supported the clinical interpretation of the results.
- An anonymous online market research panel participated in the study. Panellists included urologists and radio-oncologists from France, Germany, Spain, Italy, and Belgium. To maintain panellist anonymity, there was no direct interaction amongst panellists, or between panellists and the research team.
- Questions were designed to either seek direct consensus based on a pre-defined consensus threshold (≥70% agreement or disagreement with a given statement), or to gather numerical insights informing a consensus-seeking question in the subsequent round.
- Individual responses from each round, as well as group responses for closed-text questions, were shared with the Delphi panellists in subsequent rounds. This approach was designed to encourage re-evaluation and reflection, and foster consensus.
- Whilst three rounds were planned, only two were completed, followed by qualitative interviews with ten panellists to investigate the Round 2 results in detail (**Figure 1**). The results of the Delphi panel are presented in **ISPOR EU 2024 Poster #EPH286**.[2]

Results and discussion

Round 1 and Round 2

- Heterogeneity was observed in several of the Round 1 results, with consensus achieved in only a limited number of questions. For example, the mean (± standard deviation [SD]) proportion of PCa patients starting their first intervention who had metastatic disease was reported to be 24%±13% (range: 2–60%); somewhat higher than expected and what has been reported in available literature (5%).[3]
- After reviewing Round 1 results with the steering committee, it was hypothesised that question concepts/definitions were not always interpreted as intended. To reduce the likelihood for such variability, additional clarifications were included for some questions in Round 2 (e.g. specifying the exact imaging type or patient population that panellists should consider).
- Moreover, many questions in Round 2 were adjusted towards numerical estimates (**Figure 1**), with the aim of improving the likelihood of achieving consensus in the planned Round 3.[2]
- Nevertheless, many Round 2 results showed an even greater degree of heterogeneity than was seen in Round 1. For example, the mean proportion of patients with metastatic PCa at diagnosis was reported to be 35%±17% (range: 0-75%; **Figure 2**).
- The persistent heterogeneity seen across Round 1 and Round 2 suggested that a "true", underlying heterogeneity may exist, and/or that the additional clarifications may not have been understood as intended or interpreted correctly by panellists. This prompted us to further explore these factors through qualitative interviews.

Qualitative interviews

- Insights from the qualitative interviews suggested that some of the observed variation across questions did indeed stem from true differences in panellists' clinical experience, caseload, country-specific screening practices and evolving clinical practice (**Figure 3**). However, the interviews also confirmed our hypothesis that question concepts and definitions were not always interpreted as intended, which potentially contributed to the observed variation.
- Overall, this led us to conclude that reaching consensus in Round 3 would be unlikely and a third round was therefore not conducted.

Reflections on our approach

- Other Delphi panels in the PCa setting report the use of interactive round(s) after questionnaires, to promote discussion and consensus-building.[4–7] Incorporating this direct interaction in our Delphi panel may have reduced misinterpretation and encouraged consensus by allowing panellists to discuss questions, raise uncertainties and align on definitions with peers and the research team.
- Delphi panels can be piloted for clarity and ease of use prior to dissemination, with feedback used to help refine questions.[8] A pilot of the questionnaire used in this study could therefore have been valuable in reducing any potential misinterpretation.
- When reflecting on our approach from the outset, conducting an initial phase of qualitative research to refine question focus and terminology, and providing panellists with available evidence before attempting to seek consensus, may have been beneficial. This could have helped identify areas of true underlying heterogeneity, indicating where consensus-seeking methods may be less suitable or only appropriate at a subgroup level.

Figure 2. Round 2: Thinking about all newly diagnosed patients with PCa (i.e. including non-metastatic patients designated as watchful waiting) you have seen in the past 3–6 months, and remembering to base your answer on conventional imaging only, please indicate what percentage of these patients had metastatic disease

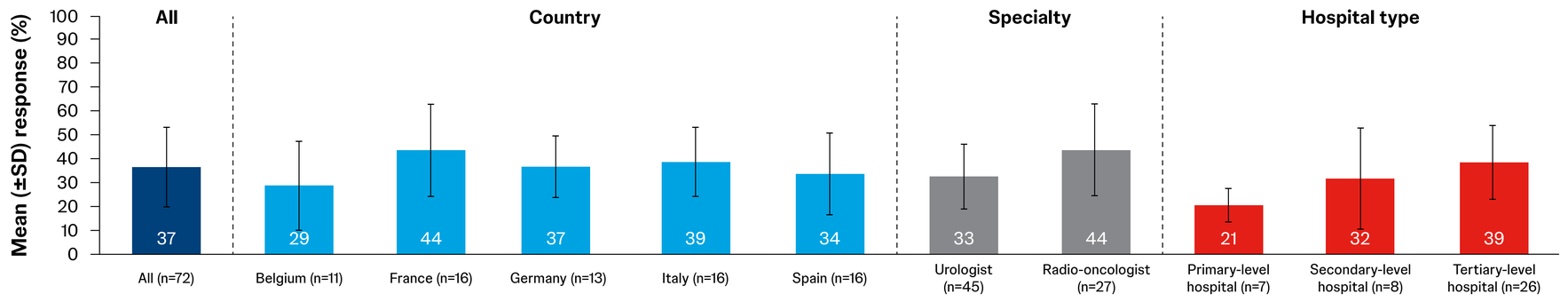
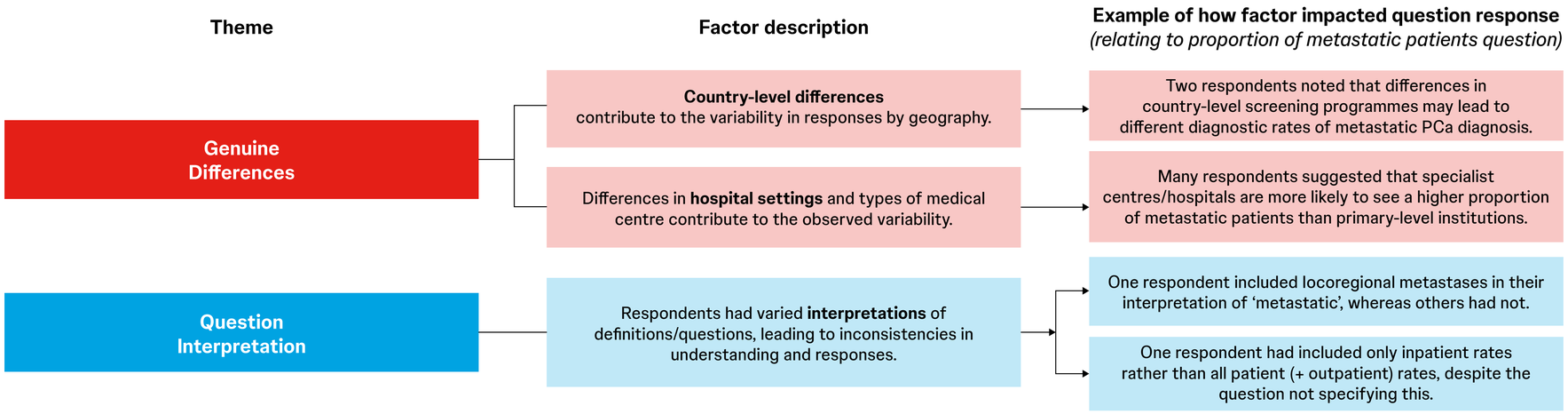


Figure 3. Key factors influencing responses (insights from qualitative interviews)



Footnote: Interview responses were analysed by categorising key quotes into overarching themes and assessing their impact on the question responses.

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