

Improving Design Choices in Delphi Studies for Clinical Consensus Recommendations: Results of a Pilot Approach to Rapid, High-Quality Engagement

Janu Barhate¹, Jyoti Sahota¹, Rachel Chu², Liga Bennetts²

¹Amaris Consulting, Toronto, ON, Canada, ²Amaris Consulting, Montreal, QC, Canada



INTRODUCTION

- The Delphi technique is a structured, systematic method used to obtain knowledge and perspectives of a group of experts in an area of uncertainty.¹
- Methodological choices in Delphi formal consensus procedures may influence whether valid research results are obtained. For example, selection of relevant experts and appropriate engagement and communication with panelists are important to ensure quality of responses and to minimize attrition.^{2,3}

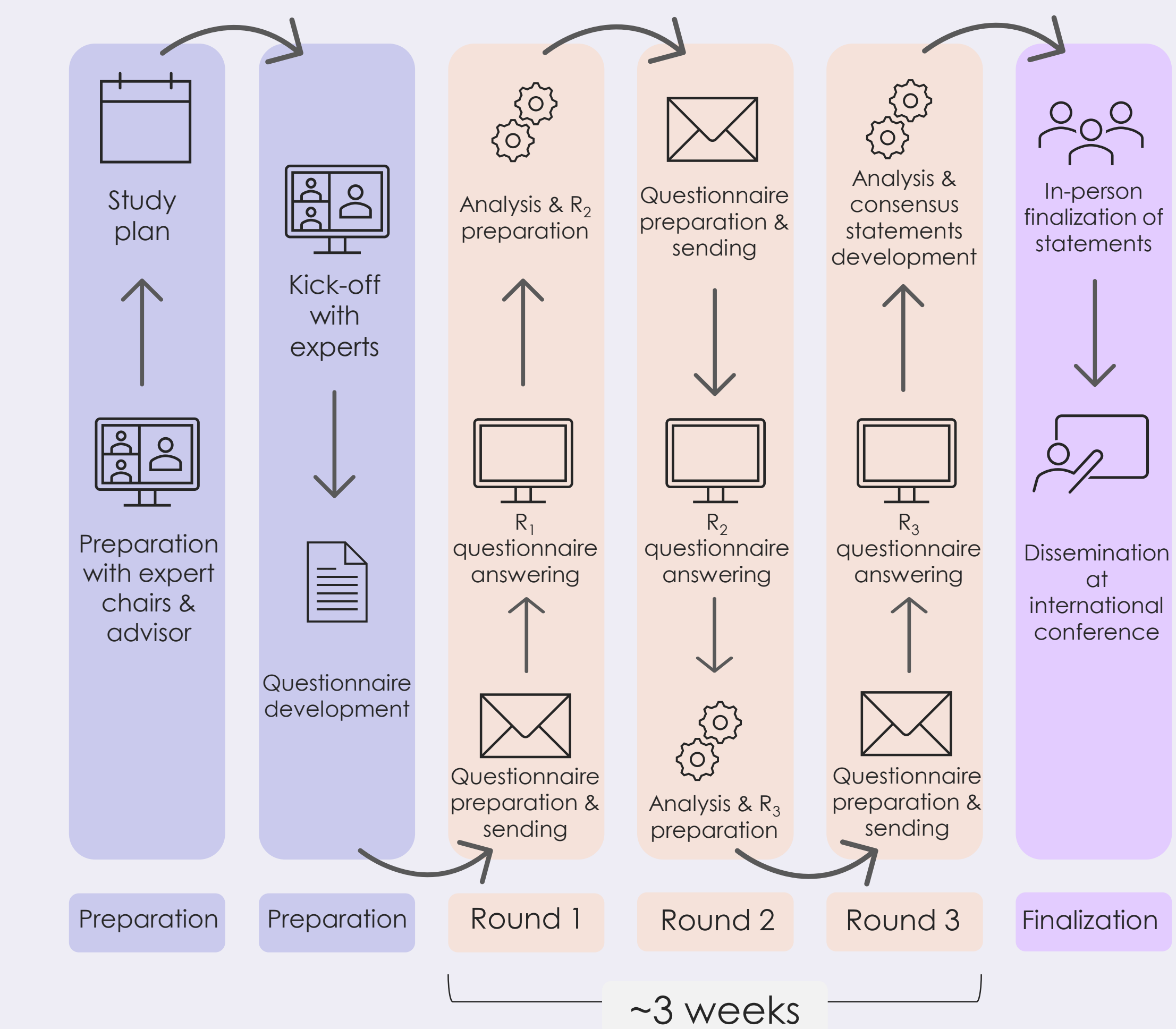
OBJECTIVE

We describe a study outlining methodological choices, to provide insight into how to plan and address challenges when designing Delphi investigations.

METHODS

- The objective of this study was to build consensus on optimal management of an oncology indication in Canada.
- A modified Delphi approach was selected to provide a robust methodology to elicit expert knowledge and perspectives in the Canadian context.
- Conduct and reporting as per CREDES recommendations were followed.⁴
- We opted for a three-round electronic modified Delphi panel, followed by an in-person debrief meeting (**Figure 1**). An independent researcher coordinated activities, acting as lead Delphi panel moderator.

Figure 1. Modified Delphi panel process



- **Round 1:** panelists ranked their level of agreement with 22 statements, & suggested changes as free-text responses. A 5-point Likert scale was used to assess level of agreement for each statement (**Figure 2**); threshold of consensus was set at >80% of respondents agreeing with a statement.
- **Round 2:** panelists presented with anonymized results, along with their previous response. Free-text responses from Round 1 were formulated into alternative statements. Panelists were asked to score their level of agreement for each statement.

Figure 2. Rating scale

1	2	3	4	5
Extremely agree	Agree	Neither agree nor disagree	Disagree	Extremely disagree
Agree----- Level of agreement -----Disagree				

METHODS (cont.)

- **Round 3:** statements lacking consensus, or for which % agreement decreased, or which were recommended to be retained by the expert advisor were included, and the process from Round 2 repeated.
- **Finalization:** Results of Round 3 for all statements discussed by the Delphi panel in person; statements identified as having further scope for refinement were modified & panelists were asked to score their level of agreement in the post-meeting follow-up.
- Reminders sent and individual response times were documented.

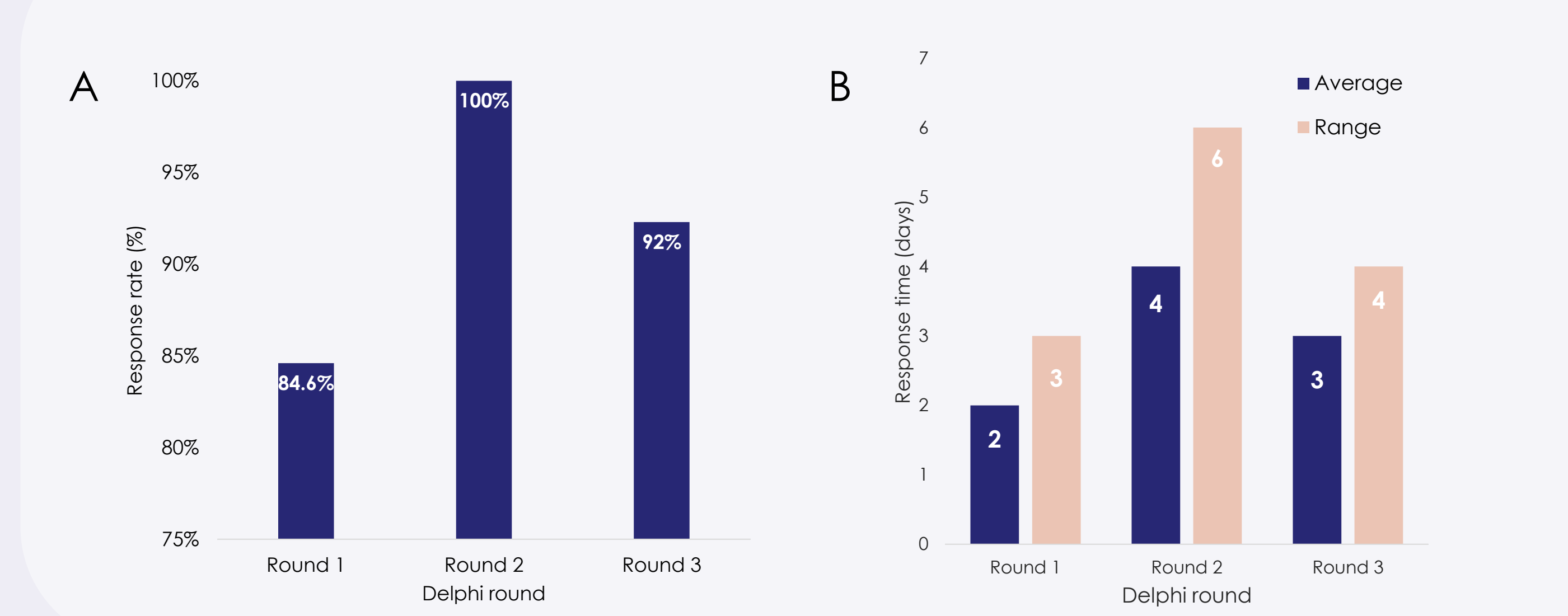
RESULTS

- 13 panelists participated, from 6 provinces. Most (5) were based in Quebec, and most (5) were medical oncologists.

Response rate and time

- Response rate was high, ranging from 84.6% (11/13) of panelists in Round 1 to 100% in Round 2 (**Figure 3a**).
- Average time to response in each round ranged from 2 to 4 days, and the longest time to response was 6 days (**Figure 3b**).

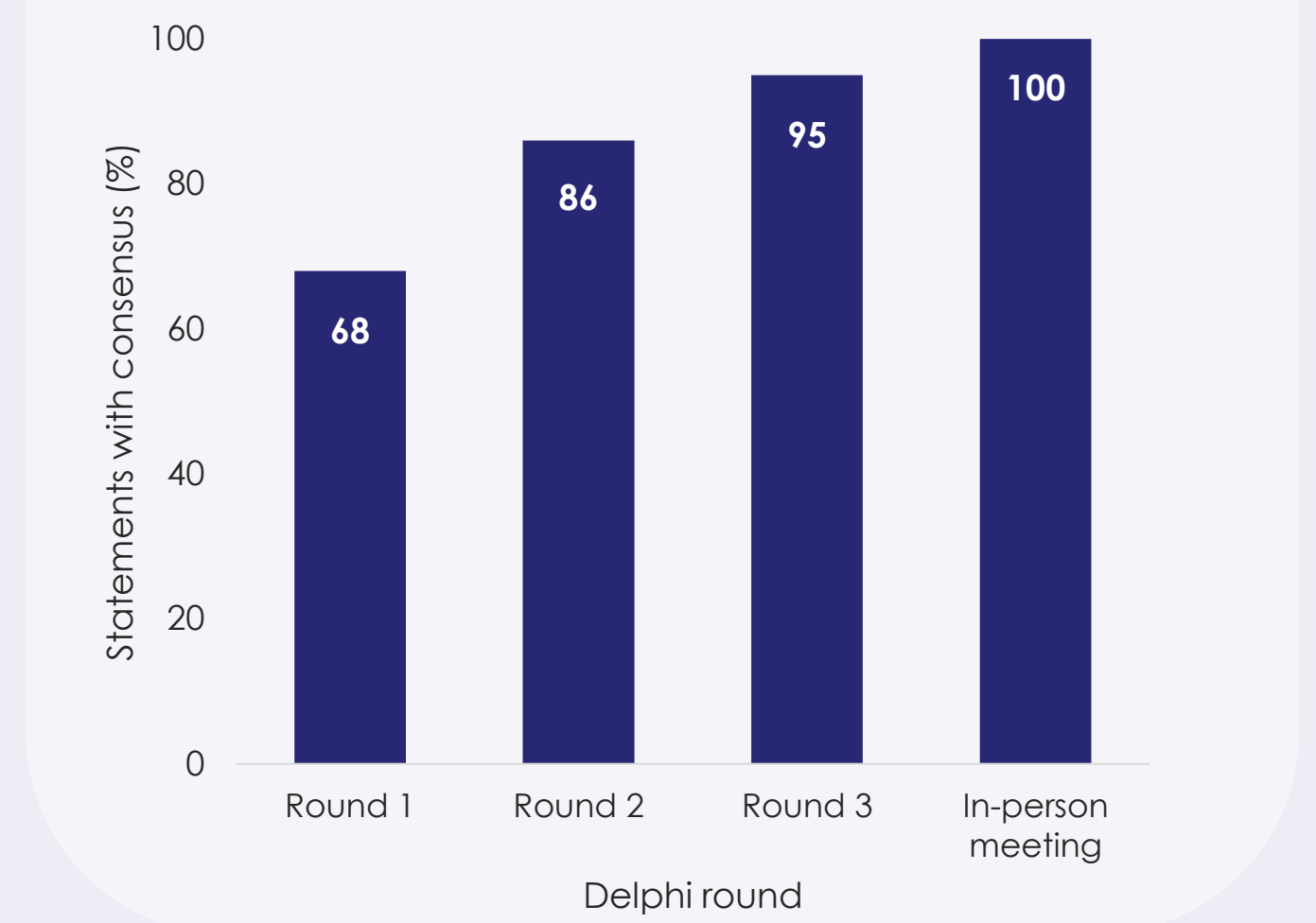
Figure 3. Response rate (a) and average response time (b) in each round



Consensus

- Consensus was achieved in Round 1 for 68% (14/22) statements, increasing to 86% (19/22) in Round 2, and 95% (21/22) in Round 3 (**Figure 4**). Following an in-person debrief meeting, the panel recommended 4 statements for additional testing, with consensus finally achieved for 100% (22/22) of statements (**Figure 4**).

Figure 4. Consensus achieved in each round across 22 statements



DISCUSSION & CONCLUSIONS

- Consensus was achieved for all the statements (22/22), with the 3 Delphi rounds completed in just 3 weeks.
- Design and conduct took into account panelist profiles and their schedules and limited timeframe of the study, ensuring high engagement and appropriate formulation of the statements and instructions.
- Including a detailed preparatory phase and close collaboration with expert chairs and advisor ensured that potential pitfalls were avoided.
- Ensured identification and recruitment of appropriate & engaged panelists.
- At each step, expert understanding informed statement formulation to ensure interpretations of feedback were grounded in clinical understanding; this minimized attrition and ensured that consensus could be reached.
- Involvement of experts during the Delphi process, and implementation of a clearly communicated, consistent methodology is therefore recommended.

REFERENCES

1. Jones and Hunter. BMJ 1995; 311:376-380; 2. Humphrey-Murto and De Wit. J Clin Epidemiol. 2019;106:136-9; 3. Hsu & Sandford. Pract Assess Res Eval 2007; 12:17; 4. Jünger et al. Palliat Med. 2017;31(8):684-706.