

Research Skills for Clinicians
Workshop Series

Conducting Delphi Studies





Centre for Developmental
and Complex Trauma
Part of St Andrew's Healthcare

PART II: PLANNING A DELPHI STUDY





Guidance on Conducting and REporting DElphi Studies (CREDES)

- The CREDES guidance outlines good practice in the conduction and reporting of Delphi studies
- The guidance was developed specifically for Delphi studies in the area of palliative care, though much of the guidance applies to studies outside of this specific domain
- A copy of the article that outlines the development of the guidance, and the guidance itself, is provided in the workshop TEAMs channel

Delphi Conducting and
Reporting Guidance
(CREDES)

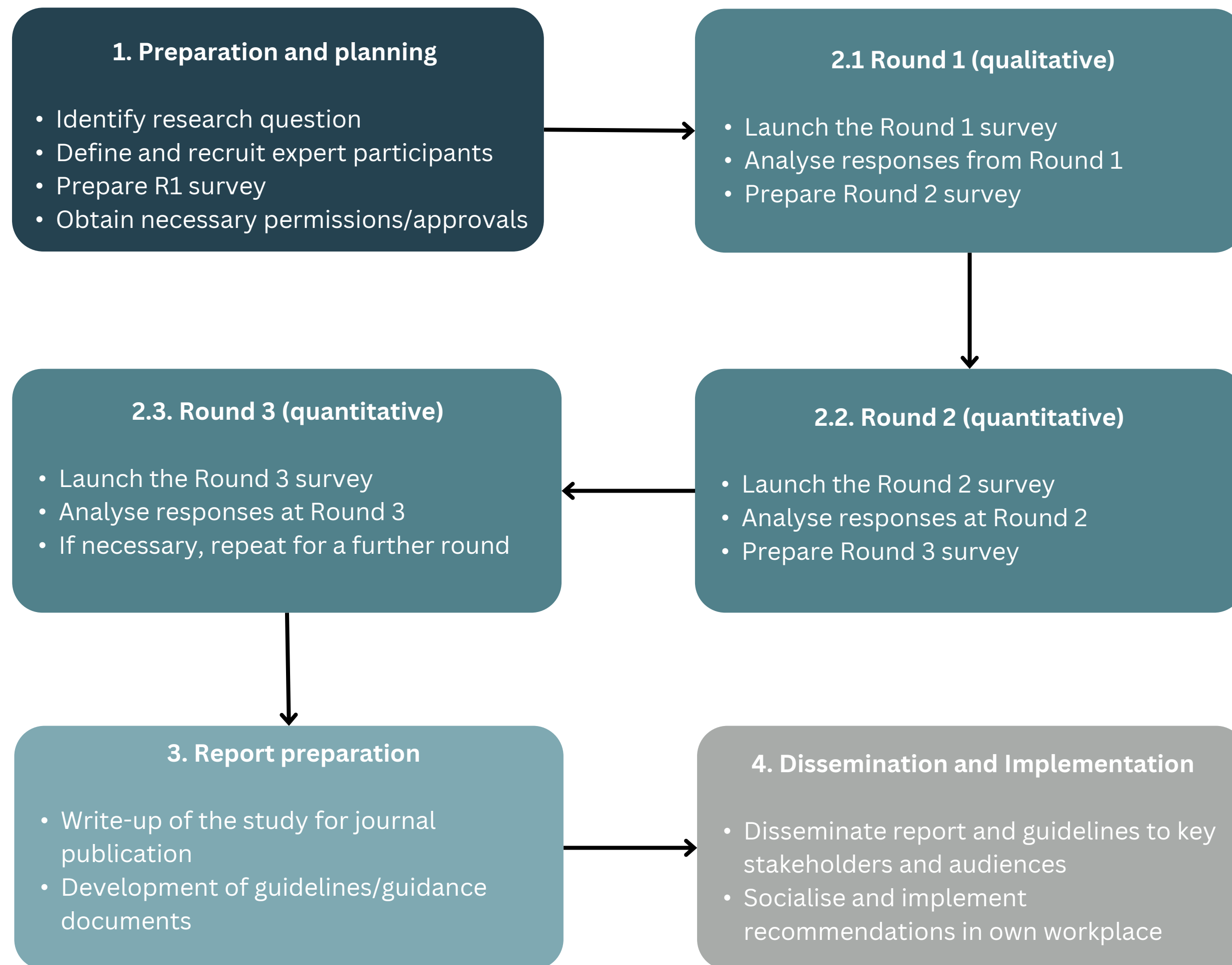


Research protocols for Delphi studies

- The sections and stages of standard research protocols apply to Delphi studies
- In addition, some subtle, yet key differences with Delphi protocols exist
 - Methodology
 - Participants
 - Materials
 - Procedure
 - Data analysis plan
- Delphi protocols can't contain all of the questionnaires needed for all three rounds as their development is iterative during each round
- Depending on the approach taken to develop the R1 questionnaire, the protocol may not contain the R1 questionnaire.



Stages of a Delphi study





Defining the purpose and focus of the Delphi



- Be clear about the overall aim of the Delphi
- Delphi studies are ‘vehicles’
- What is the bigger picture for your study?
 - Develop clinical guidance
 - Influence policy
 - Expand your network
 - Inform research / clinical priorities
- A caveat about the politicization, activism and ‘moralization’ of research
- Think about the potential reputational impact of the Delphi for your organization. Specifically, are there some areas of practice that are best not advised upon?



Developing 'motivating' research questions



The Wisdom of Hon. Professor Paul Burstow

To influence practice and policy (local or nationally) several key ingredients are needed:

- Evidence (Quantitative and Qualitative)
- Economic impact
- Emotion (the topic triggers.....)
- Evokes action / initiative

‘How can a therapeutic environment be sustained in inpatient mental health settings during the COVID-19 pandemic?’

- McKenna et al. (2023)

‘What are the most important barriers to accessing injury care in low and middle-income countries that should be considered when evaluating a health system?’

- Whitaker et al. (2020)

‘What are the constituents of a trauma-informed early intervention psychosis service?’

- Mitchell et al. (2020)

‘What are the best practice recommendations for the assessment and treatment of perinatal obsessive-compulsive disorder (OCD)?’

- Mulcahy et al. (2023)

‘Which domains and items should be included in a diagnostic instrument for the assessment of PTSD in people with dementia?’

- Havermans et al. (2023)

‘What adaptations to the Safewards model are needed to assist forensic mental health nurses to prevent and manage conflict and containment?’.

- Maguire et al. (2023)



Building your research team



- Delphi studies are more robust when developed and conducted by a team, rather than individuals. Group membership should reflect:
 - Subject matter experts
 - People with extensive networks relevant to your study
 - Delphi method 'experts'
 - People who can carry out qualitative analyses e.g. thematic analysis
 - Practice knowledge of the problem you are addressing
 - People who have time to dedicate to the study, especially thematic analysis and the work needed between rounds
 - People with experience of translating research into the practice areas you want to change
- It's also advantageous if you have previously published in the area
- Consider the biases within your own research group - mitigate against these

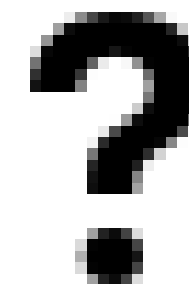


Practical exercise

1: Defining your question and core team

10 minutes

1. Identify and develop a research question that would lend to a Delphi design, that you want to carry out



- Think about the areas for which there is limited empirical evidence (e.g. few papers, poor quality design, culturally specific)
- Are there any specific populations ignored within research?
- Does the question lend to implementation / change?

2. Consider who the key people would be to have on the research team



- Are there any individuals who have good networks, that would facilitate the recruitment of experts?
- Are there any individuals who would bring strong knowledge in the area of your Delphi? This may help with the development of the surveys



Defining expertise for participants



- There is no standard criteria to follow when defining an expert for a Delphi study, other than that they should possess expertise in the area being studied
- The criteria used will depend on your research question and what you are wanting to achieve from the Delphi
- You may wish to include people with different types of expertise, such as:
 - Academic expertise
 - Clinical expertise
 - Lived experience expertise
 - Policy/public health expertise
- You will also need to consider how expertise will be operationalised (e.g. number of years experience, number of papers published, job title, demographic characteristics etc.)



Defining expertise for participants



"Experts were defined as providers, clinical researchers, or clinical program administrators with ≥ 5 years of experience in the fields of ASD and/or childhood trauma"

Kerns et al. (2022). Expert consensus regarding indicators of a traumatic reaction in autistic youth: a Delphi survey. <https://doi.org/10.1111/jcpp.13666>

"As there is considerable cross-over of clinical roles and practice in the multi-professional team, experts were nurses and allied health professionals involved in the delivery of clinical care to people injured due to major trauma. This could include clinical services and academics in universities. There were no restrictions on seniority of respondents as the aim was to develop research priorities relevant to anyone working with major trauma patients."

Jarman et al. (2023). Establishing the research priorities for major trauma in the United Kingdom: A Delphi study of nurses and allied health professionals. <https://doi.org/10.1016/j.ienj.2023.101265>

"Health professionals and consumers with lived experience were invited to participate. Health professionals were eligible to participate if they had: (a) clinical, research, or service provision experience with people experiencing suicide-related behaviour, and; (b) knowledge or contact with acute settings through service provision, employment, or client contact. Consumers were eligible if they had attempted suicide or experienced suicidal thoughts, had cared for a person who has attempted suicide or experienced suicidal thoughts, or had been bereaved by suicide"

Hill et al. (2019). Development of best practice guidelines for suicide-related crisis response and aftercare in the emergency department or other acute settings: a Delphi expert consensus study. <https://doi.org/10.1186/s12888-018-1995-1>



Recruiting experts



Strategies used to identify experts may include:

- Emailing personal networks - individuals already known to the researcher(s) who meet eligibility criteria (e.g. colleagues, patients)
- Emailing professional networks - approaching organisations, charities, clinical services, research groups
- Advertising via social platforms - e.g. LinkedIn
- Systematic reviews - inviting authors of relevant papers from a review conducted prior to the Delphi
- Snowball sampling - asking identified experts to suggest additional individuals within their networks who would meet the eligibility criteria
- Partnering with public sector agencies or charities



Recruiting experts



"Experts on young onset dementia were identified through networks of the research team in the areas of clinical care, psychology, research and education, advocacy and lived experience. Passive snowballing recruitment was also used meaning the experts were encouraged to forward the email invitation to others they considered experts in the area of young onset dementia who would be willing to participate in the study."

Couzner et al. (2022). What do health professionals need to know about young onset dementia? An international Delphi consensus study. <https://doi.org/10.1186/s12913-021-07411-2>

"We used a multi-pronged recruitment approach, beginning with the professional networks of the authors. This included providers engaged in peer consultation around the clinical care of children with developmental disabilities and PTSD via a National Child Traumatic Stress Network initiative. Corresponding authors of the limited research papers published from 2010 to 2016 on the assessment of traumatic stress in autistic children were also recruited. Finally, experts were asked to nominate other experts (i.e., snowball sampling)."

Kerns et al. (2022). Expert consensus regarding indicators of a traumatic reaction in autistic youth: a Delphi survey. <https://doi.org/10.1111/jcpp.13666>

"We identified stakeholders via public and private nursing, medical and social care providers, policy-makers and government sectors, academic institutions involved in supporting dementia care planning and research, and the general public. Selected stakeholders were invited by email from the project team's network. Snowball sampling was also used to recruit additional study participants."

Shi et al. (2022). Are we on the same page? Multiple stakeholders and service users priorities for dementia care and policy: A Delphi study. <https://doi.org/10.1016/j.ijnurstu.2022.104300>



Anonymity and its implications



- Anonymity is a key concept in Delphi studies
- Not an all or nothing concept - layers and 'adaptations'
- Recruitment: Delphi's are never entirely anonymous just as a result of the recruitment procedures (e.g. inviting specific people to take part, and sending out links for responses to surveys)
- Responses to rounds: Can be anonymous or identified. Usually anonymous
- Delphi studies usually utilize relatively small samples - typically between 10-100 at round 1. Therefore, you need to consider what demographic data to collect, and how to minimise the chances of an individual being identifiable.
- Some studies will ask experts to provide their name when responding, for various reasons i.e:
 - To publish the list of experts that took part in the Delphi, as a means of giving credibility to the data
 - To assess the 'stability' of responses given by an expert across rounds
 - To provide experts with a copy of their responses between rounds
- However, this may also discourage experts from participating or from giving true responses, especially in sensitive areas of practice



Implications for recruitment methodology



- Recruitment for Delphi studies are often more effortful, at the start and for the life cycle of research than other methodologies
- Key factors that impact on recruitment are:
 - The number and availability of experts in your speciality
 - Whether your question resonates
 - Whether your question is limited by geographical boundaries
 - Personal reputation and network
 - The reputation of your organisation
 - Whether your study is perceived as 'competition' by other research groups
 - Anonymity for each round and at the stage of publication
 - Length of the questionnaire for each round
 - THE TIME OF YEAR!!!



Delphi design: The role of co-production with stakeholders/experts by experience

- There are many opportunities to embed co-production in the formulation, design and delivery of a Delphi study. This includes:
 - In the identification and formulation of a research question
 - In the development of surveys and materials
 - In the identification and recruitment of experts
 - In the dissemination of any outputs (e.g. reports, guidance)
- A common approach is to run pre-Delphi focus groups with individuals with lived experience expertise
- This is a particularly important approach to take when there is little existing research to establish survey questions from
- Focus groups can also be of much value in identifying a meaningful research question, establishing appropriate language and identifying key stakeholders and organisations to approach during recruitment
- Co-production should be with your target population, depending on the guidance you are wanting to develop from the Delphi



Ethical and organisational permissions



- Can be a simple or complex process
- Process of where permissions need to be gained are determined by:
 - Partner organisations
 - Who are your experts?
 - Method of recruitment for your experts
 - Use of focus groups to inform R1
- Delphi's carried out by teams, working across different organisations and agencies can often require permissions from all organisations
- Working with the US or partners outside of the UK or EU can pose specific challenges due to GDPR
- Data can't be shared or maintained on Clouds in the US due to the Patriot Act .
- Increasing issue of payments for participation
 - Some public sector organisations will insist (e.g. parole board)
 - Others are very much against (e.g. some universities)
 - Can have significant budget implications



Key documents and materials needed for permissions and approvals

- Before you can apply for ethical permissions/approvals for your project, you will need to prepare a range of documents to include in your application. This will likely include:
 - A protocol detailing your project plan (some bodies may have their own forms for you to complete)
 - Participant information sheets, consent forms and debrief sheets
 - A copy of the survey that you will use at the first round (you can't submit the round 2 and 3 survey as you don't know what this will look like at this stage)
 - A copy of any recruitment adverts or emails you intend to distribute
 - Focus group or interview schedules (if applicable)

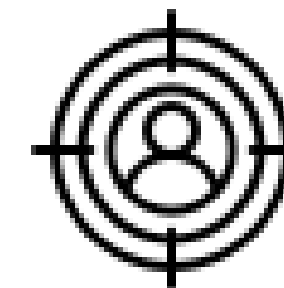


Practical exercise

2: Defining your experts and recruitment strategy

15 minutes

1. Consider who's ideas, experiences and opinions would be important to gather



- Who are the key groups that would be most appropriate to addressing your research question? (e.g. academics? people with lived experience? clinical practitioners?)
- Think about the specific requirements that these key groups would need to demonstrate (e.g. type of professional role, number of HCR-20's completed, previously published within a specific area etc.)

2. Develop a strategy to recruit these individuals to your Delphi



- What/who are the key organisations, networks, groups and individuals relevant to your target expert pool?
- What is the best method for reaching these groups (e.g. email, online advertisement, participant call in a newsletter, physical poster adverts etc)?

Time for lunch



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Review of Morning Session

- Delphi studies are a method for generating consensus on a topic. The key features of a Delphi include i) expert opinion, ii) anonymity, iii) multiple rounds of questioning, and iv) controlled feedback
- Research team membership should be carefully considered - there are multiple roles which make them a team effort. The types of knowledge and skills in the team should also be considered.
- The success and value of a Delphi is largely driven by the experts that you recruit. There is a balance to be struck in regards to the heterogeneity of the panel.
- Anonymity has implications for feedback, transparency/credibility, and potentially, response quality. It is a critical decision in the planning of a Delphi.



- Delphi is a consensus-generating method. The primary goal is to seek and establish areas of agreement amongst experts on a topic
- The key outcome of interest in a Delphi study is therefore the level of consensus (agreement) achieved on each item in the survey
- The general consensus threshold used in Delphi studies is 70%. This means that at least 70% of experts need to indicate that they agree or disagree with an item for consensus to be established
- Higher (80%) or lower (60%) consensus levels may be used depending on the homogeneity of the panel, the number of points on your likert scale and the level of conflict around your topic
- An alternative threshold which is less often used is median score (e.g. median score of 4 or greater on a statement)
- Sometimes stability on all items is relied on, though this can lend to a Delphi with many many rounds - and may still not be achieved

Setting a consensus
threshold



Planning data analyses

- The type of analyses you want to perform should inform your design decisions
- Typically, Delphi involves mixed methods analysis - qualitative analysis of responses at round 1, and quantitative analysis at round 2
- Thematic analysis is most commonly used to analyse qualitative data, but other options are also available (e.g. content analysis, grounded theory)
- Qualitative analyses are typically limited to 'descriptive' statistics
- The key analyses involved in a Delphi is the calculation of change in agreement/disagreement ratings between rounds 2 and 3
- Other common analyses include the calculation of a mean/median score on each survey item (as a measure of consensus or for more descriptive purposes)
- If you're not anonymising responses, you can use inferential tests to calculate whether any changes in responses (instability) are significant (example paper in TEAMs channel)



Preparing the first round



- R1 has some key differences to subsequent rounds
- R1 You will have an outline of your questionnaire, that your experts will then add to, for R2 & R3
- Three broad methods for developing items for your R1 questionnaire, with Delphi's often involving multiple approaches in this round
 - Literature review
 - Focus groups (Different types of expert, depending on your question)
 - Expert feedback
- Strong qualitative (open text) component to R1 to generate items for R2 & R3
- Experts can be used to generate
 - Definitions
 - Priorities for investigation / care
 - Risk or protective factors
 - Recommendations



Practical 3: Key design decisions

1. Decide on your Delphi design

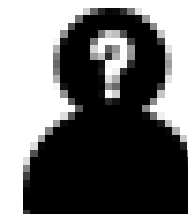
- Will you run focus groups or interviews to inform your Round 1 survey?
- Will you make use of a recruitment phase? Or recruit 'live' during round 1?

2. Select a consensus threshold



- Will you determine consensus based on percentage of agreement? And what percentage level will you use?

3. Anonymity



- Will experts responses be anonymous?
- Will you collect experts names at each round (e.g. so you can publish these to give credibility, assess stability between rounds)?



Part II

Summary

- Give thought to your research team - this is an important foundation for setting up a successful Delphi
- Think carefully about whose opinions you are wanting and how you will capture these individuals in your eligibility criteria and recruitment strategy
- Too heterogeneous risks not achieving consensus, too homogeneous risks excluding important perspectives
- Anonymity has pro's and con's - think about the topic of your Delphi and whether sacrificing anonymity might limit the quality of responses
- Depending on the quantity and quality of the existing literature base, you may wish to run a 'pre-Delphi' phase of focus groups/interviews to inform your round 1 survey