

Nominal Group Technique

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 @pacernetwork



THE UNIVERSITY OF
SYDNEY



The Sydney
children's
Hospitals Network
care, advocacy, research, education



kids
research



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Westmead
Institute
FOR MEDICAL RESEARCH



Health
Western Sydney
Local Health District



CHILDREN'S
MEDICAL
RESEARCH
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Contents

1. Background and theory
2. Uses
3. Method
4. Analysis
5. Practicalities
6. Discussion

Not covered:

- In depth qualitative analysis
- Visualisation
- Write-up

Background

This paper presents a group process for conducting an exploration of the qualitative and quantitative elements, patterns and total structure of a health care problem under preliminary investigation. Reasons for employing the nominal group process as a pilot research instrument are given. The authors emphasize that it is appropriate for some problems but not for others.

The Nominal Group as a Research Instrument for Exploratory Health Studies

Introduction

The term “Research,” even when applied to Systems Planning, often evokes the image of a situation

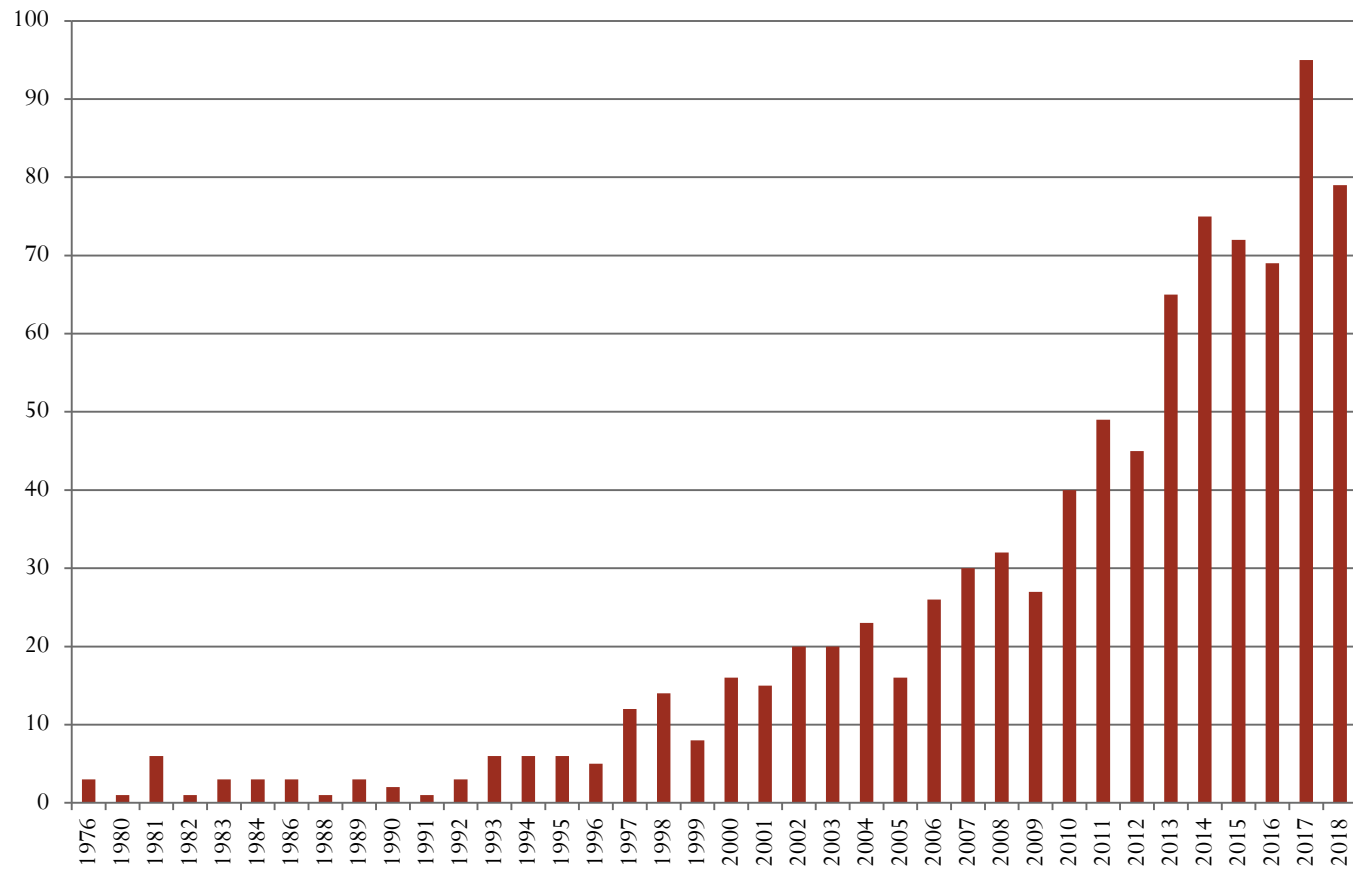
Andrew H. Van de Ven and André L. Delbecq

“...qualitative judgmental problem exploration which is particularly applicable to the subjective and judgmental character of many health planning efforts.”





NGT articles by year of publication



Theory



- **Engagement** of stakeholders
- **Inclusive** as each person has equal opportunity
- **Empowers**: levels the playing field
- **Encourages diversity**: recognises wide range of ideas
- Enriches **understanding**
- Allows **prioritisation**
- Works towards **consensus**

“How do I know what I think until I see what I say?” -attributed to E.M. Forster

Similar qualitative methods

- Sits within focus groups as a different tool
- Qualitative as well as semi-quantitative data
- Focus groups:
 - Not a consensus method
 - Does not prioritise
 - Not quantitative or value-laden
 - Non-verbal cues influence participants
 - Language barriers and dominant participants



Similar qualitative methods

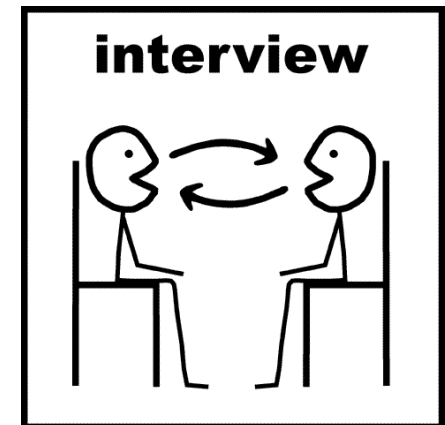
- Survey questionnaires

- Frequency of opinions
- 'Closed' questions
- Cursory, curt answers
- Limited exploration



- Interviews

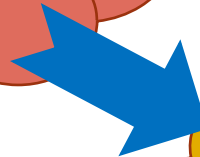
- Detailed
- Narrow field with less scope
- Not a consensus method



Qualitative research family

Focus groups

Nominal group
technique



Survey or
Interview
questions

OPEN

CLOSED

NGT applicability

- Problem exploration – very broad!
- Concepts, individuals or groups, systems
- Prioritisation
- Use before continuing with:
 - Questionnaire
 - In-depth interviews
- Use before developing a measurement tool



Example settings and populations

- Patients, caregivers, physicians, administrators...
- Schools and teenagers
- Teaching and learning
- Disempowered populations
- Research prioritisation
- Transplant allocation principles
- Usability of information platforms

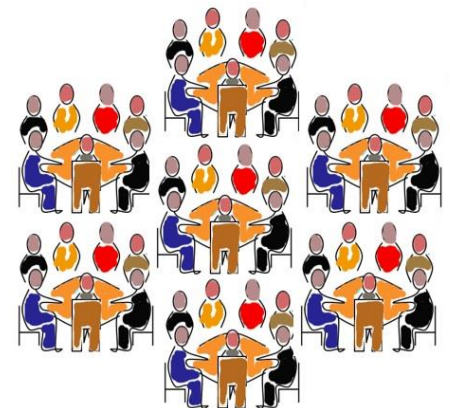
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Participants and recruitment

- **Target group:** experience and perceptions of the problem
- **Sampling:** purposive, theoretical, snowballing, convenience
- **Timeframe:** allow weeks
- Give enough information (consent) but don't pre-empt discussion
- **Hurdles:**
 - Mental health issues, language, safety, contacting families after patient has died

Setting

- **Focus group**
- Power-neutral setting
- 8-12 participants
 - Can be larger setting with tables of ~8
- Chairs in U-shape with flip chart or whiteboard
- Introduction is key
 - Enthusiasm, empower, altruism
 - Goals and housekeeping



Method

FOCUS GROUP ~2 hours

1. Generation of ideas
2. Recording the ideas
3. Discussion
4. Voting
5. Group discussion

1. Generating ideas



- Around 15-20 minutes
- The Question or Problem – how it is posed is critical
 - Very precise, unambiguous, ‘set the scene’
 - Workshop or pilot question prior
- Participants record ideas independently

Question examples

“What research topics do you feel are important in **X** ?”

“If researchers wanted to evaluate different treatments for people with **X**; what should they measure in order to determine which one is better?”

“What factors would influence your decision to be an organ donor?”

“What makes things difficult at school?”

“If you could fix, change or make anything better for children with kidney disease, what would it be? “

2. Recording ideas

- 20-25 minutes
- Round- robin style
- Each participant proposes one idea at a time
- Write all ideas on flip chart or board
- Briefly clarify if necessary
- Continue until all ideas recorded



3. Discussing ideas

- 15 minutes
- Consider each idea in turn
 - Clarify, elaborate, defend, dispute
- **Harness the group**
- Have prompt questions
- Engage with logic, beliefs and values behind each idea
- Can add new items



Break time

- 10-15 minutes
- This is important
- Most focus groups have a half-way break
- **Print out ranking lists for participants**



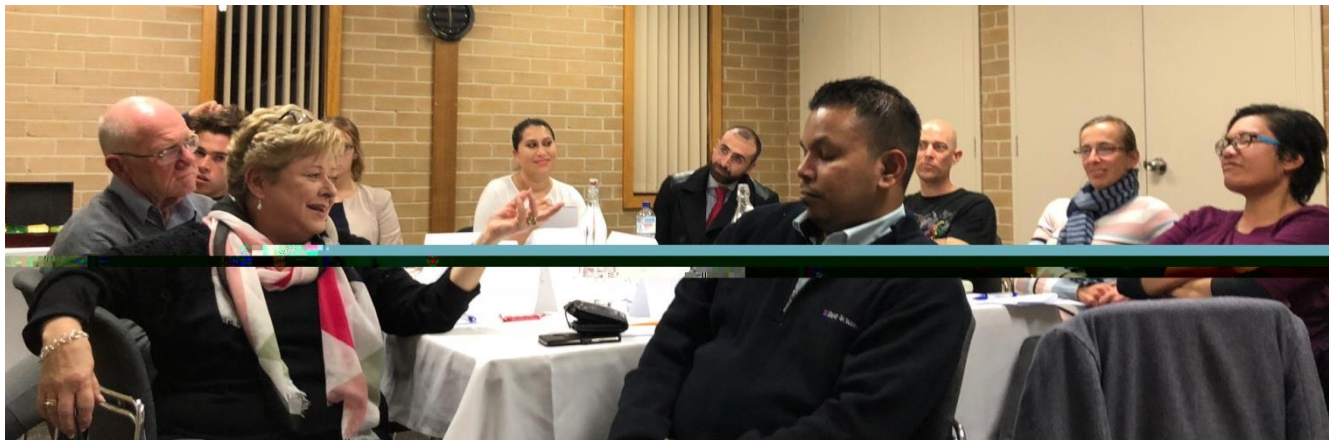
4. Voting or ranking

- 15-20 minutes
- **Individual voting on ideas**
- Top 10-20 at least
- If you only want top 10:
 - Highest = 10
 - Lowest = 1
- Keep ranking sheets

Ranking Numbers	Outcomes Listed
1	Kidney Function 腎功能下降
2	Blood Pressure 血壓
	Cardiovascular disease 心血管疾病
3	Impact on Family 對家人和朋友的影響
4	Ability to work 工作能力
5	Social Activities 社交生活
	Life participation 參與生活, 做平時的活動
	Anaemia 貧血病
6	Need for dialysis or transplant 透析或器官移植的需要
	Infection / immunity 免疫系統失調/感染
	Financial impact 財務影響
7	Relapses/remission 復發/緩解
	Bone health 骨病變
	Fatigue 疲倦/疲勞/缺乏精力
	Cramps 抽筋 (腳部)
	fluid retention/swelling 小便(尿液份量)/腫脹/水份過載/腳腫
8	Anxiety / Stress 焦慮/精神壓力
	Depression 抑鬱
	Ability to travel 可以去旅行、出差
	Weight 體重改變/增加
	Joint muscle pain 關節肌肉疼痛
9	Protein in Urine 尿液中的蛋白質, 小便起泡沫
	Mobility 活動能力差/下降
	Physical strength 體力下降, 經不起勞動
	Mood 情緒低落
10	Appearance 外觀
11	Sleep 睡眠 / 睡眠困擾 / 失眠
12	Itch 身痕癢
	Skin 皮膚變化 (例如變色, 或出疹)
	Hair 頭髮
	Nausea/vomiting 噁心/嘔吐/反胃
	Hearing 耳鳴

5. Group discussion of the ranking

- 15-20 minutes
- Tally voting results, either:
 - Individuals offer top three
 - Write all weighted votes from the group next to the ideas
- **Harness the group dynamics**
- Re-define problems as necessary



Andrew H Van de Ven and A. Debelcq. American Journal of Public Health. 1972

① Kidney function ^{22/15}

② Dialysis ^{11/21 123/1}

③ Drug interaction ³

④ Mobility ³

⑤ Nausea/vomiting.

⑥ Fertility

⑦ Vision/blindness

⑧ Hair loss/gain. ¹

⑨ Diabetes ³

⑩ Bone health

⑪ Medication burden

⑫ Protein in urine

⑬ Sleep

⑭ Dietary impact (?)

⑮ Fluid retention

⑯ Cardiovascular ²

⑰ "Usual" activities (?) ³

⑱ Fatigue/tired

⑲ Mood swings

⑳ Cramps

㉑ Infection

㉒ Hospitalisation ²³

㉓ Work impact ²

㉔ Delayed diagnosis

㉕ Immunity ²

㉖ Skin cancer

㉗ Cancer

㉘ Joint pain/arthritis.

㉙ Muscle weakness

㉚ Fetal impact.

㉛ Financial impact.

㉜ Depression.

㉝ Anxiety

㉞ Mortality ³

㉟ Skin changes.

㊱ Relapses

㊲ Remission

㊳ Blood pressure ³

㊴ Cognition.

㊵ Weight gain.

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Holistic care.
Many doctors
specific advice.
Therapeutic mindset

6. Optional extras

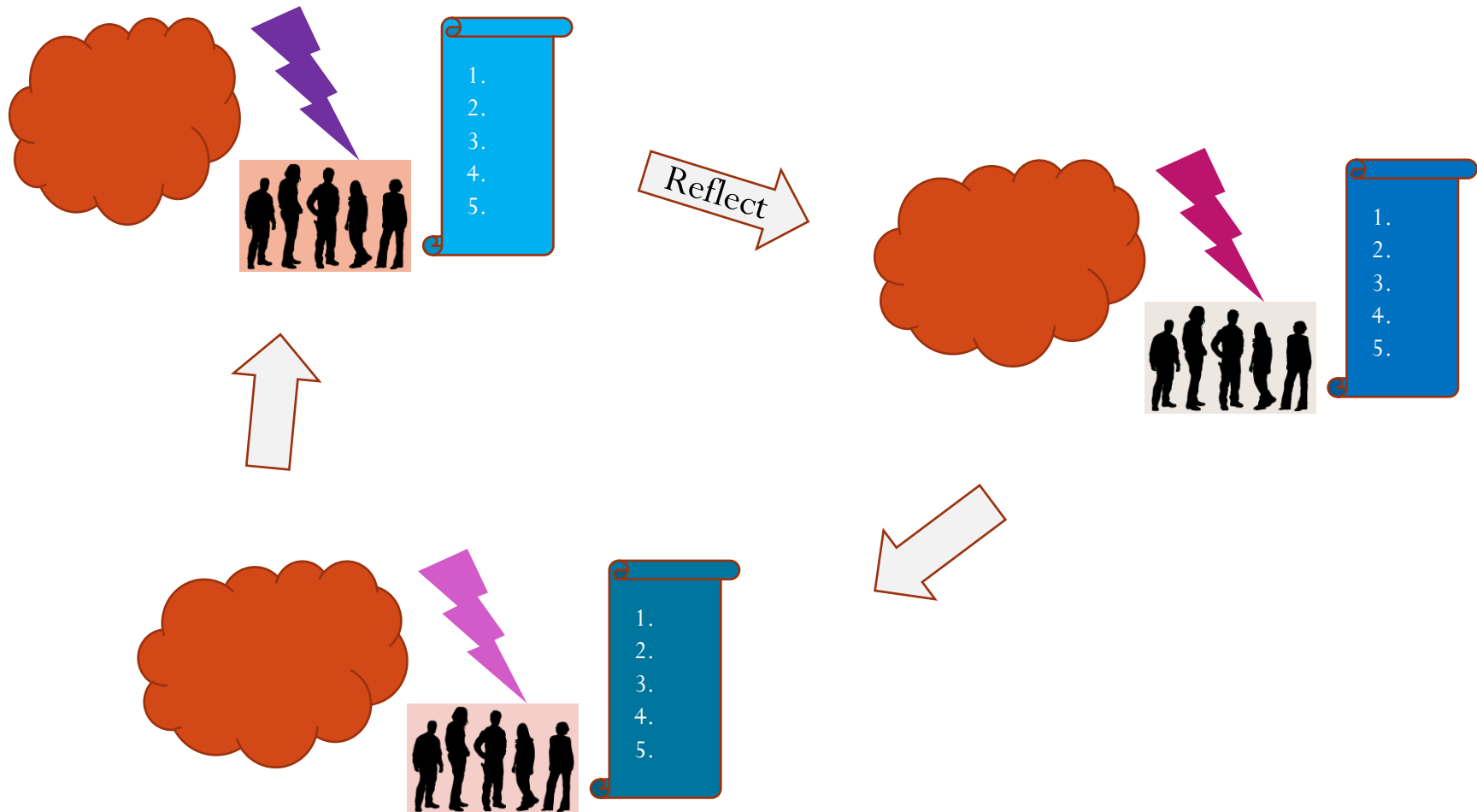
- Sources differ slightly on order of events
- Participants can be given the option of **revising** their ranks
- Re-ranking
- Relative rating according to importance i.e. ‘weighting’
 - “If no. 1 is 100 points, then is no. 2 at 65? 80? 95?” etc.

Conclude meeting

- 2-5 minutes
- Summarise back to group what they have achieved
- Thank participants and explain next steps
- Gather contacts/ get consent for future research



Summary: the iterative NGT process



Analysis

Quantitative

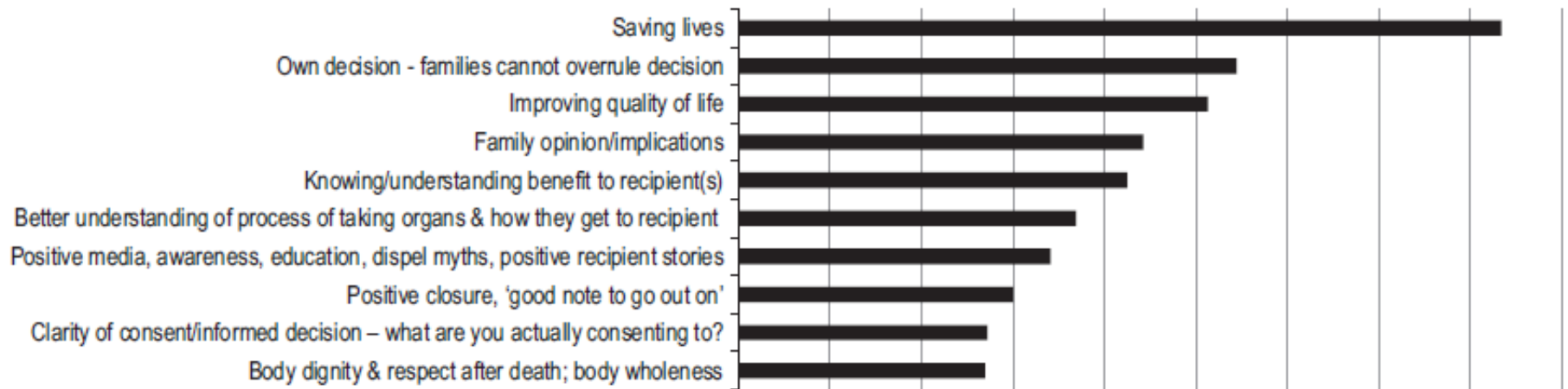
- Simple descriptive statistics
- Excel spreadsheet
- Aggregate and order by rank
 - Simple sum of ranks e.g. listed 1 to 10
- How can you account for items not ranked by everyone?
 - Report number of groups
 - Relative importance score
- Can do weighted rank
 - Report mean

Outcomes	Ranking	Score
Kidney function	1	0.41
Mortality	2	0.29
Need for dialysis or transplant	3	0.22
Fatigue	4	0.17
Life participation	5	0.16
Anxiety	6	0.13
Impact on family	7	0.12
Ability to work	8	0.11
Blood pressure	9	0.11
Immunity	10	0.10

Qualitative

- Same as for focus groups
- Inductive and deductive processes
- Iterative
- Thematic analysis
 - Open coding
 - Axial coding
 - Selective coding
- Grounded theory
 - Above, *plus* theoretical sampling

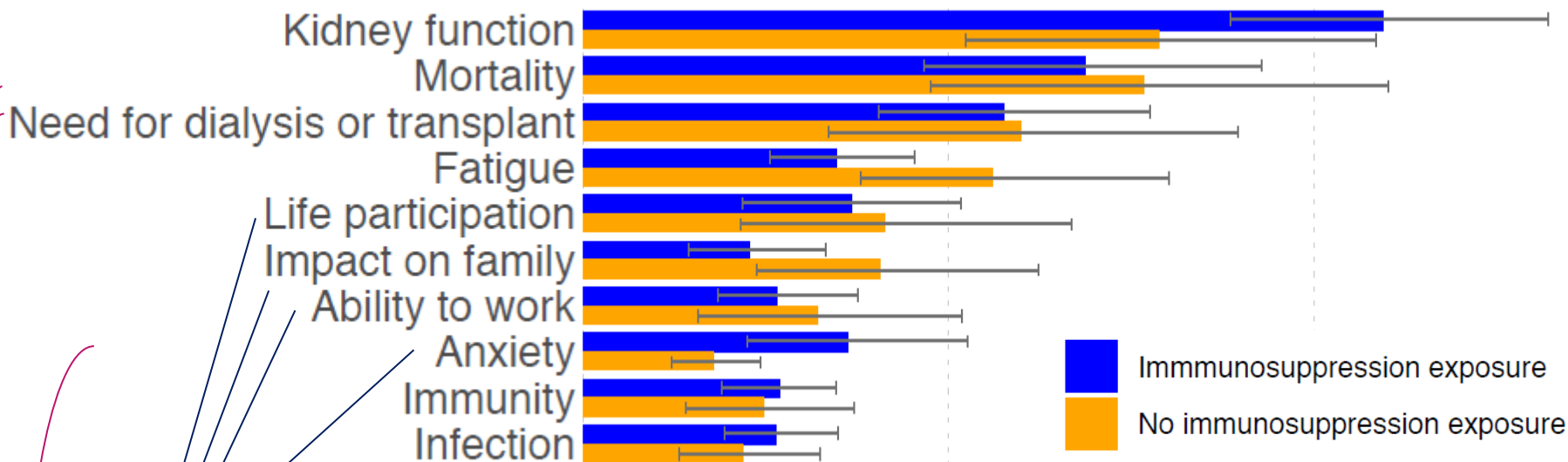
Problem: low organ donor rates



POLICY *and* PRACTICE implications:

1. Perceived outcomes of transplant recipients
2. Healthcare legislation and clinical guidelines
3. Knowledge and information about transplantation
4. Beliefs and attitudes to organ donation

Problem: outcomes for trials



‘Glomerulonephritis stops my husband from thinking bigger... although that is really big, there’s also this life’ ~Female caregiver, 36 years

‘I always thought anxiety and stress was the biggest [issue]...dialysis and death doesn’t really worry me, because it’s something I can’t control.’ ~Male patient, 63 years

Problem: research prioritisation

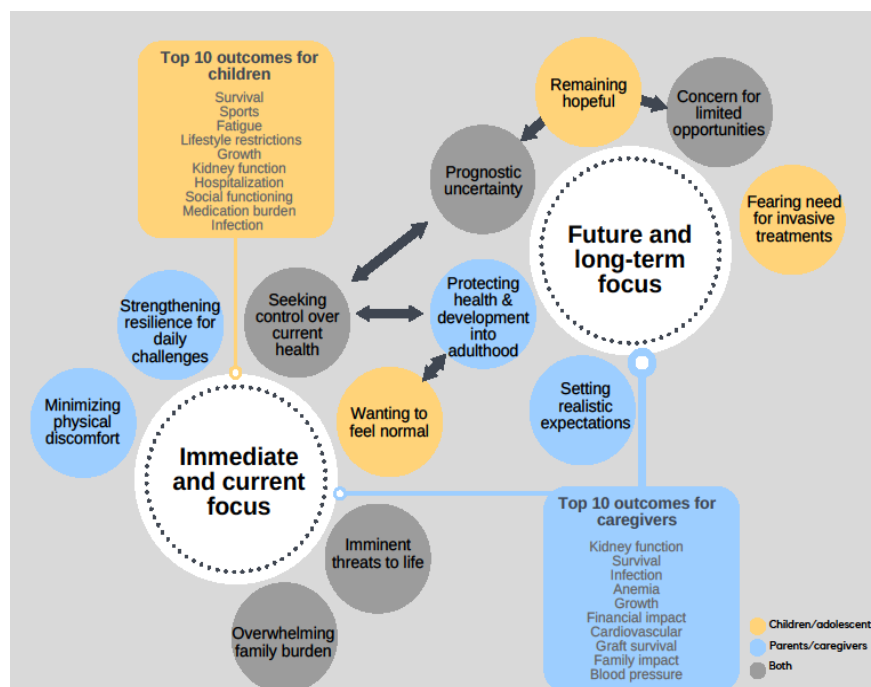
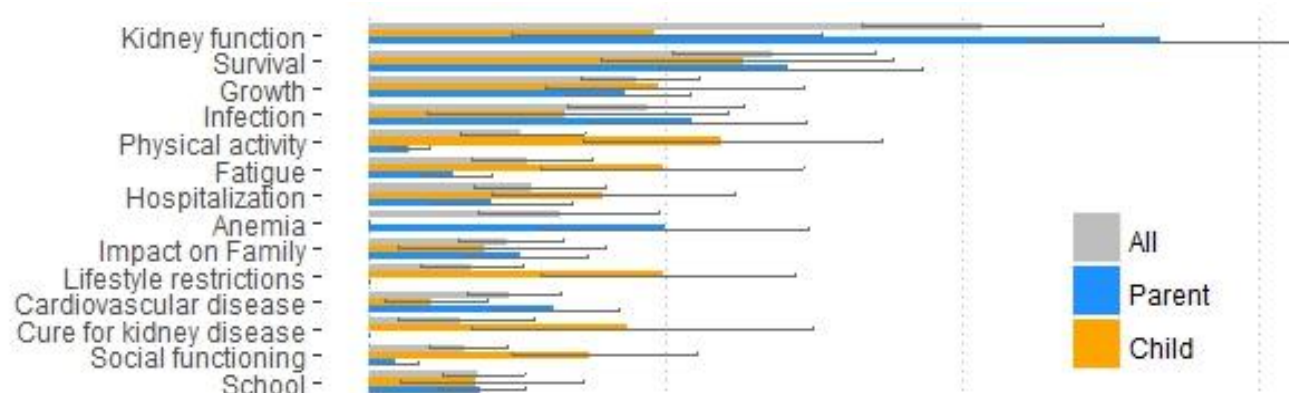
Rank	Key theme	Total rank score (possible range: 1–102)	Number of consultation groups in which topic received at least one vote N= 17
1	Impact on life, how to live with cancer and related support issues	68	13
2	Risk factors and causes	58	12
3	Early detection and prevention	48	9
4	Research into general information needs (on cancer, treatment, research and access to)	34	11
5	Use and effectiveness of complementary and alternative therapies	30	7
6	General education of public about cancer	24	5
7	Research into different cancer and patient types	23	7
7	Research on treatment (curative treatment, treatment types and improvements)	23	5
7	Experiences and management of side effects	23	7
8	Organisation and funding of health and social care services	21	6
9	Coordination, impact and funding of research	19	4
10	Research into recurrence	11	3
11	General communication issues involving all parties	10	3
12	Accessing patients' views about cancer, services and research	9	2
13	Health and safety in the hospital	1	1

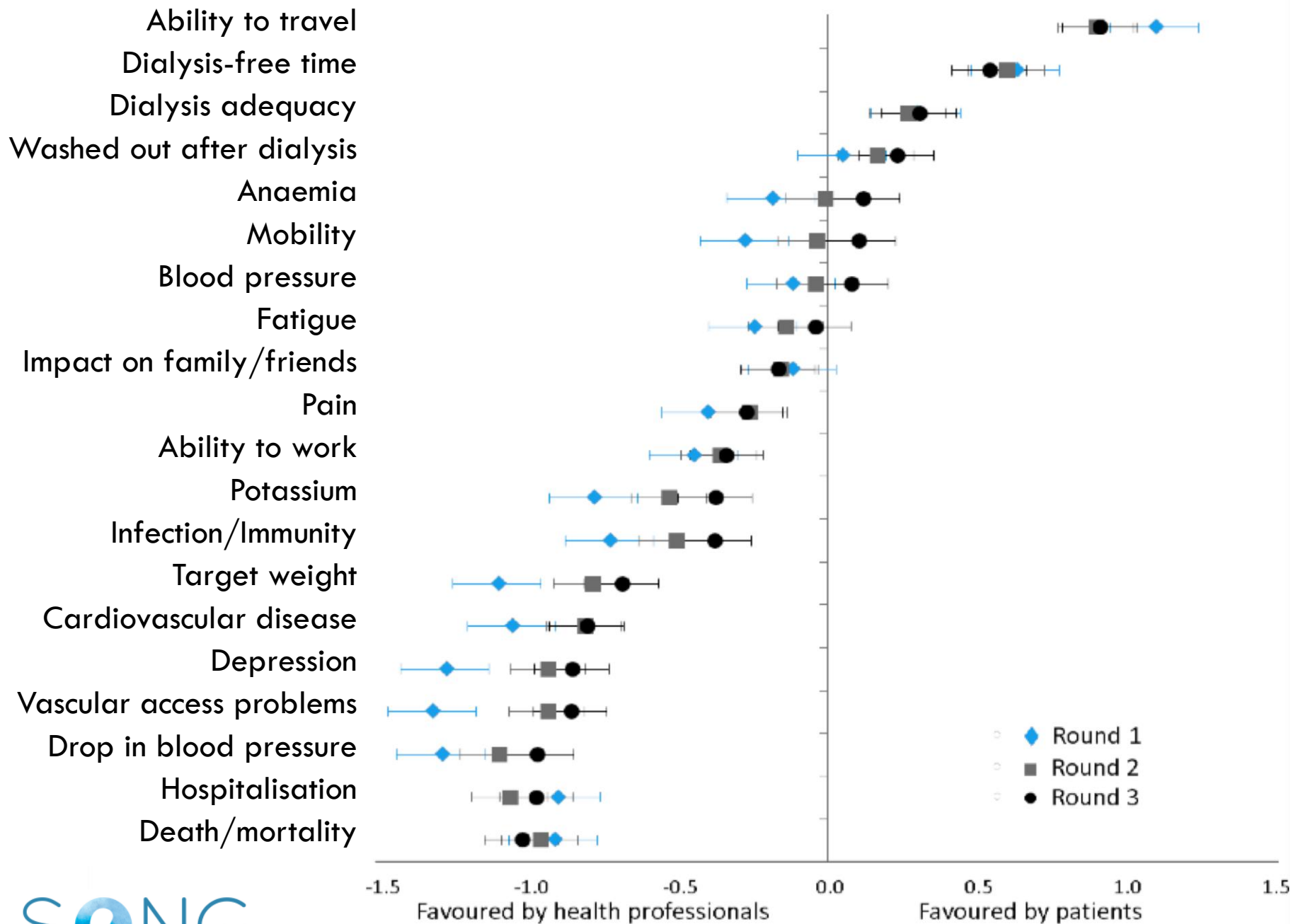
SONG-Kids: outcomes of chronic kidney disease

Longer **lifespan of the transplant**. That's my most important...Frankly, this thing could stop working tomorrow. It could be 10 years from now. That's a **fear** of mine. I try not to think about it too much, but the **uncertainty**... I plan things out. I like to know what I'm getting into...it could just stop working... I want to go outside but I know that I could get bumped in my stomach, I might not go. (Male, young adult, transplant, USA)

I think the biggest challenge and the biggest impact to [my daughter's] life is her delayed **development**, and her delayed **milestones**, and her **learning** disabilities...I continually now wonder whether it wouldn't have been wiser **to transplant her much earlier**...It's her cognitive abilities that I think were impacted and it really worries me how she's going to carry on as she gets older and graduates from high school. What she's **going to be able to do**, and whether she's going to be able to **live independently**, or **function efficiently**. (Mother, child with a kidney transplant, Canada)

SONG-Kids: outcomes of chronic kidney disease






Next stage

- Standardised data collection instruments
- What items are measurable?
- Decision 'rules'
 1. Observable over wide variations
 2. Explain a large range of phenomena
 3. Logistics: ease of measurement, cost
- Acknowledge these are judgement calls
 - involve care providers, patients and care givers, statisticians

Kidney function
Mortality
Need for dialysis or transplant
Fatigue
Life participation
Impact on family
Ability to work
Anxiety
~~Immunity~~
Infection



Strengths

- Democratic: levels power dynamics
- Efficient: many ideas quickly
- Uses the group's language and dynamic
- Prioritises by semi-quantification
- May gain consensus; acknowledgment of diversity
- Enriched understanding
- Facilitates research translation

Limitations

- Results relate quite specifically to the group studied
- Subjective by its nature
- Time investment?
- ‘Closed question’ scenario
- Limits more exploratory discussion

This paper presents a group process for conducting an exploration of the qualitative and quantitative elements, patterns and total structure of a health care problem under preliminary investigation. Reasons for employing the nominal group process as a pilot research instrument are given. The authors emphasize that it is appropriate for some problems but not for others.

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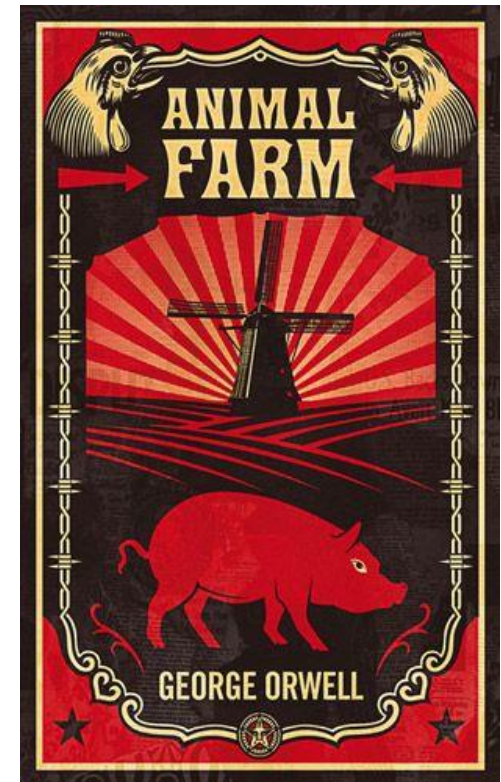
Andrew H. Van de Ven and André L. Delbecq

Troubleshooting



Common problems

- **Dominant participants**
 - Practice strategies ahead of time
 - Don't take them head on
- **Drift:** unfocussed group
 - Reframe discussion; restate goal
- **Too timid**
 - Prompts, normalise
 - Look for commonality
 - Directed questions using known issues
- PRE-EMPT in introduction
- HOUSEKEEPING



Inventory

- Copies of consent and study forms
- Attendance sheet
- Run sheet
- Reimbursements
- Pens
- Paper
- Flip chart and whiteboard markers
- 2 audiorecorders
- Laptop
- USB
- Tissue box
- Organising folders
- Paracetamol

Checklist

- Confirm attendance 2-3 days prior
- Confirm parking
- Access to printer
- Catering and food preferences/allergies
- Payment for venue, catering, carpark

Before

- Registration
- Forms complete?
- Set up wifi
- Set up room

During

- Press PLAY!
- Timer
- Print list
- Non-verbal data

After

- Forms complete?
- Forms named?
- Forms filed?
- Reimbursement

Follow up

- Feed back results!
 - Recognition
 - Respect
 - Implementation of results
 - Next phase of study
 - Ethical (HREC/IRB)

“confident that their views are valued and that action will occur as a result”

Wrap-up

- NGT as a recommended group brainstorming method
- Enables prioritisation in diverse, complex areas
- Wide applicability in current health research climate
 - Research prioritisation
 - Patient engagement
 - Unmet needs

“...qualitative judgmental problem exploration which is particularly applicable to the subjective and judgmental character of many health planning efforts”

Core activities

Webinars

Workshops









Other events e.g. forums

Resources

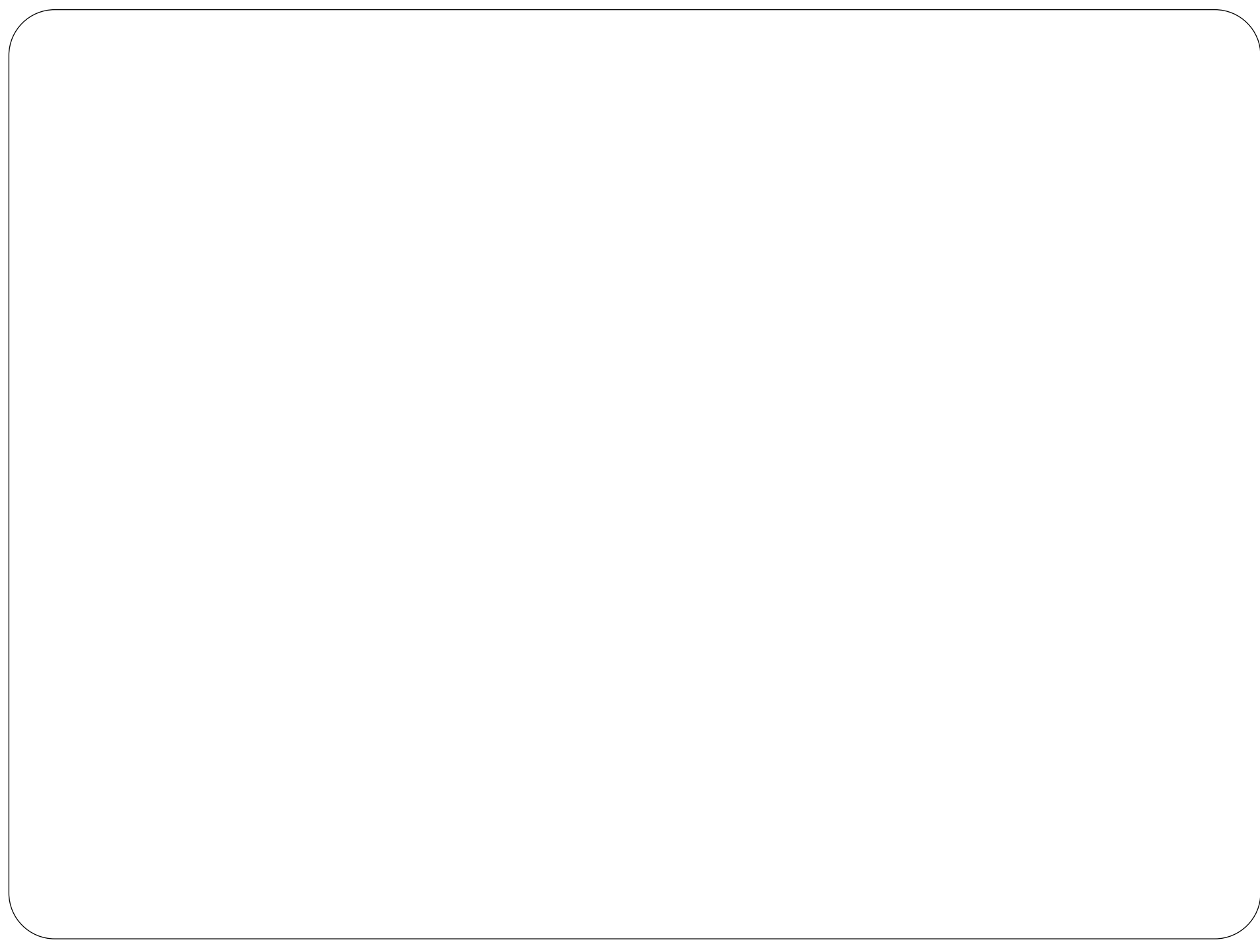
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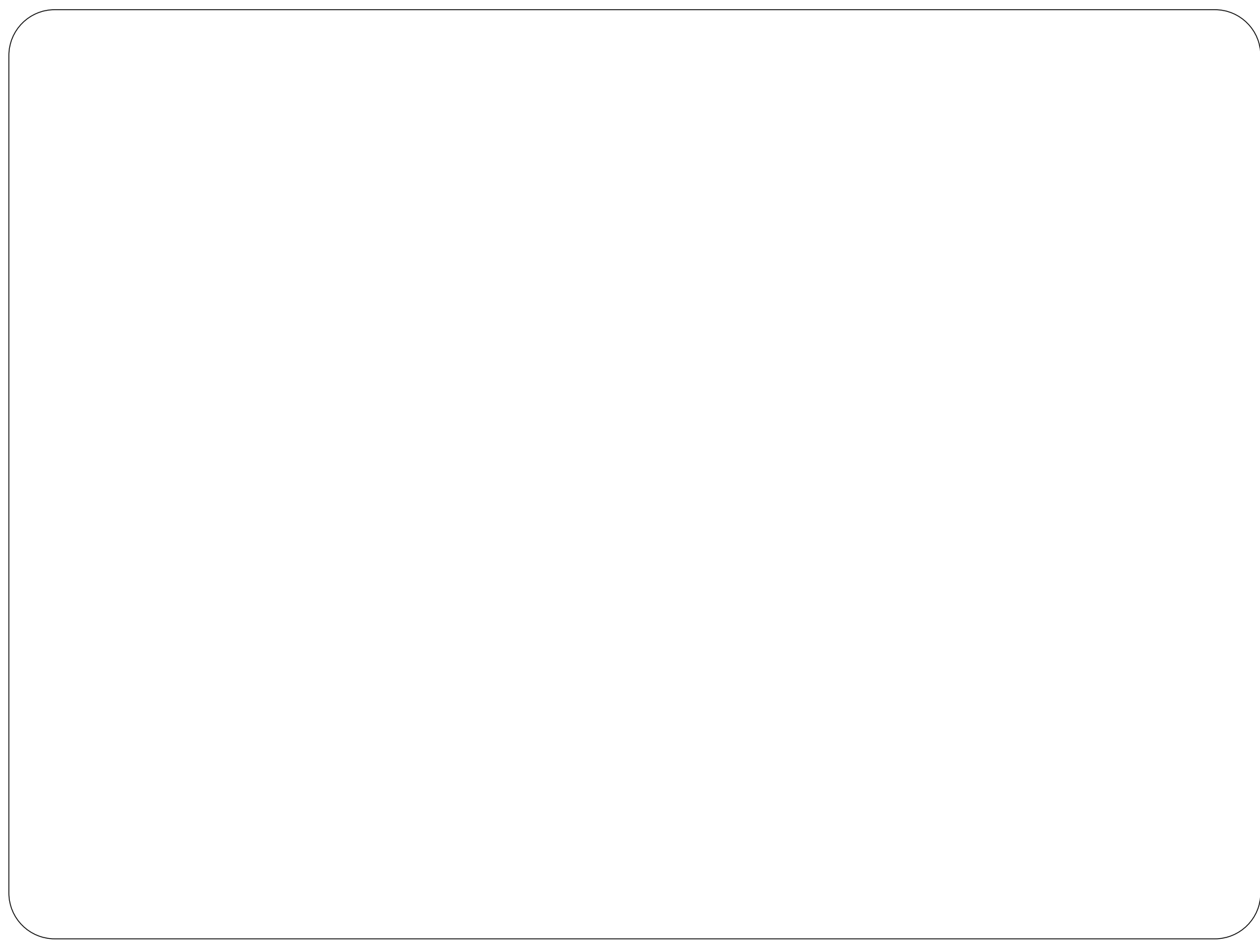
Our curated collection of resources for patient-centred outcomes research.

All Context Methods

			
Health literacy	Patient involvement in research	Qualitative research	Choice experiments
			
Consensus methods	Research priority setting	Process evaluation in clinical trials	Core outcomes

Questions?





Broad approach

1. What is the theoretical framework?
2. What is the issue?
3. What are the desired outcomes?

