



**ANZMUSC**

AUSTRALIA & NEW ZEALAND MUSCULOSKELETAL  
CLINICAL TRIALS NETWORK

NHMRC CENTRE OF RESEARCH EXCELLENCE

# ANZMUSC Research Question Priority Project

March 2018



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**AUSTRALIA & NEW ZEALAND MUSCULOSKELETAL  
CLINICAL TRIALS NETWORK**

**NHMRC CENTRE OF RESEARCH EXCELLENCE**

To optimise musculoskeletal health through high quality, collaborative clinical research focusing on trials of highest importance

# ANZMUSC trial endorsement criteria

1. Must satisfy an ANZMUSC research priority (reflecting important disease burden and an important evidence or evidence-practice gap)
2. Must present evidence confirming that the research question is one that the clinical and/or consumer community want answered.
3. Must be of high quality (e.g. minimising risk of bias, ensuring appropriate power) and include an economic evaluation and process measures where relevant
4. Must be feasible (reflecting cost, logistics, track record and likely recruitment rate)
5. Must show strong potential to change practice and/or policy (reflecting academic impact, implementation, and generalisability)
6. Must be multicentre (to encourage collaboration, increase power and increase implementation of findings)
7. Chief investigator must be a registered full member of the ANZMUSC Clinical Trials Group.

# ANZMUSC trial endorsement criteria

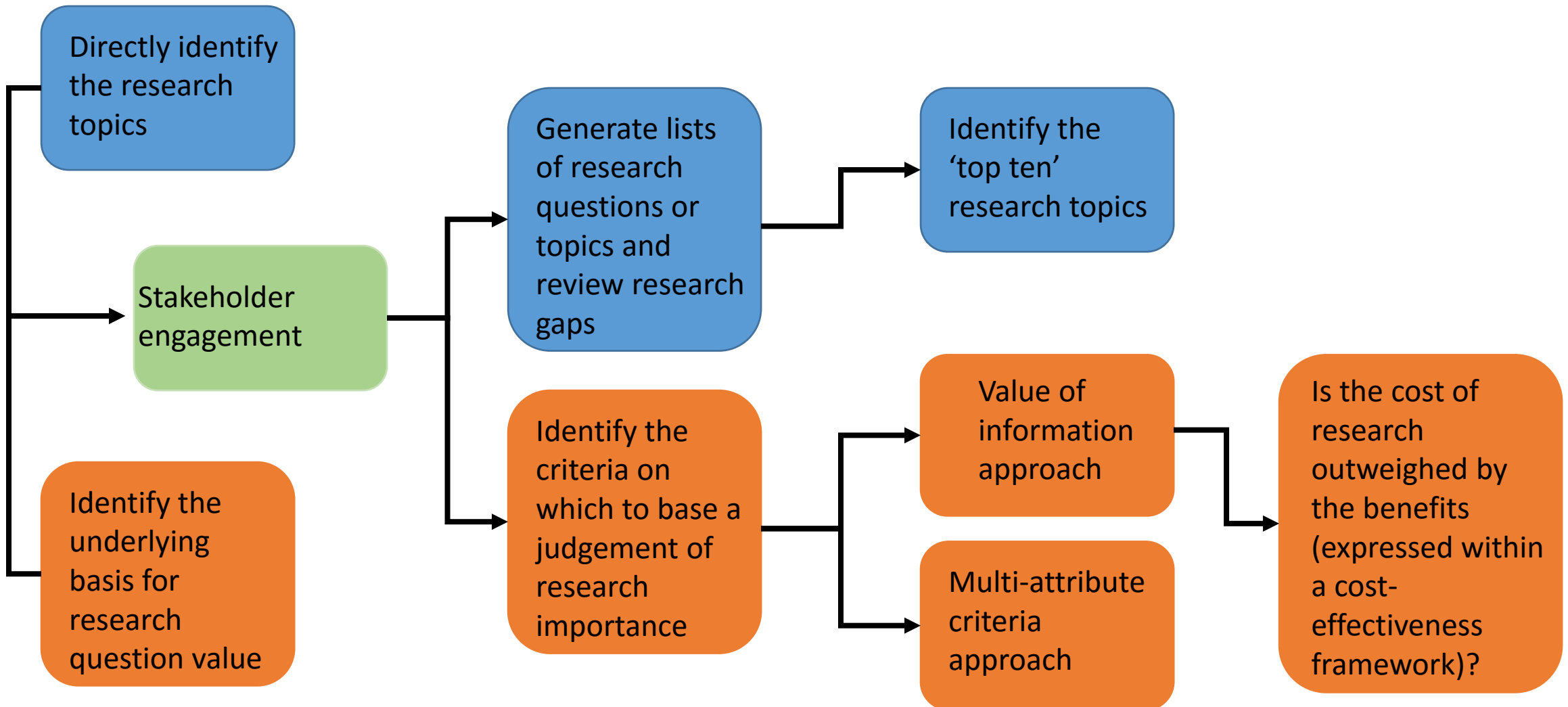
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These criteria are about how important the research question is

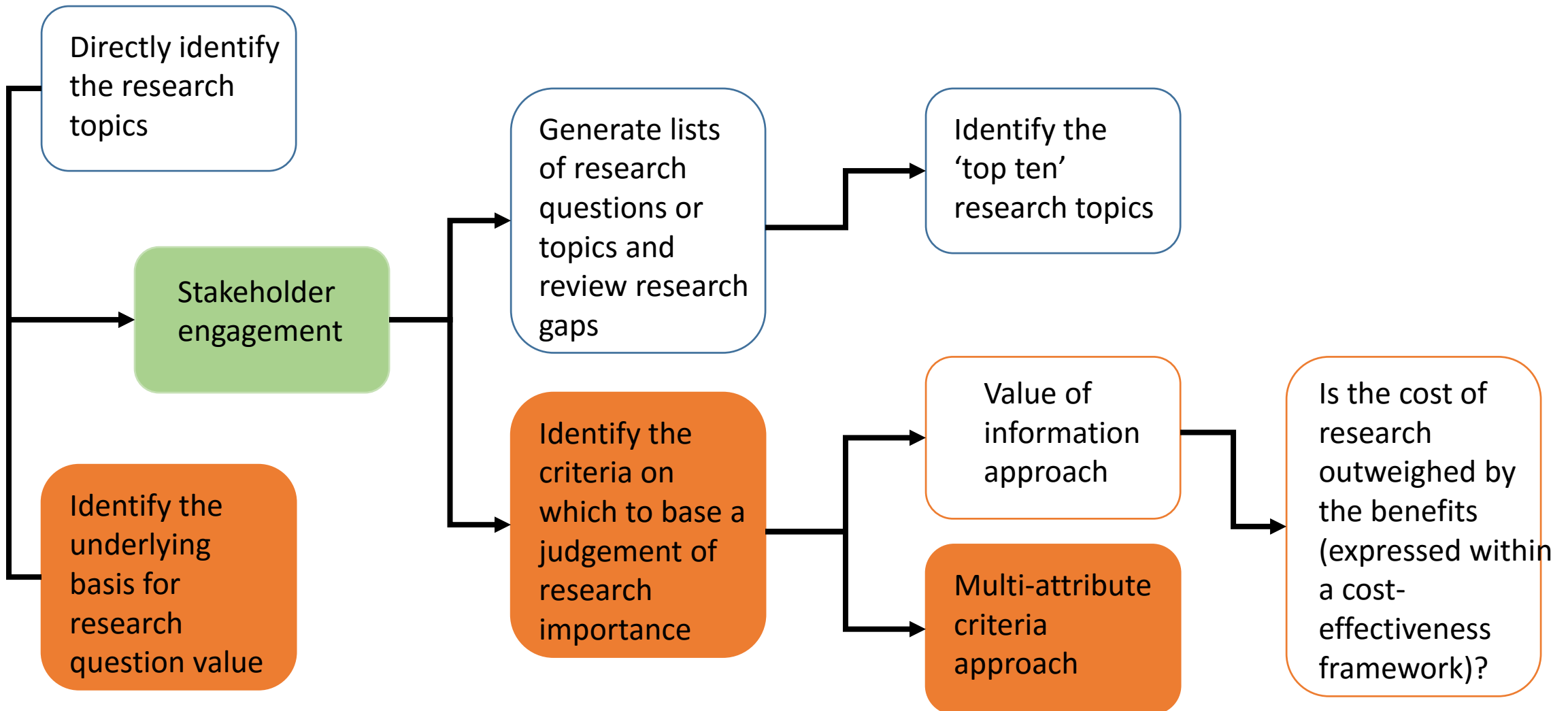
# Prioritization is relevant because...

- ANZMUSC has limited resources (people, funds, infrastructure)
- Some research questions are 'more important' than others
- ANZMUSC wants to “To identify the key clinical research questions relevant to musculoskeletal health.” (Mission Statement)

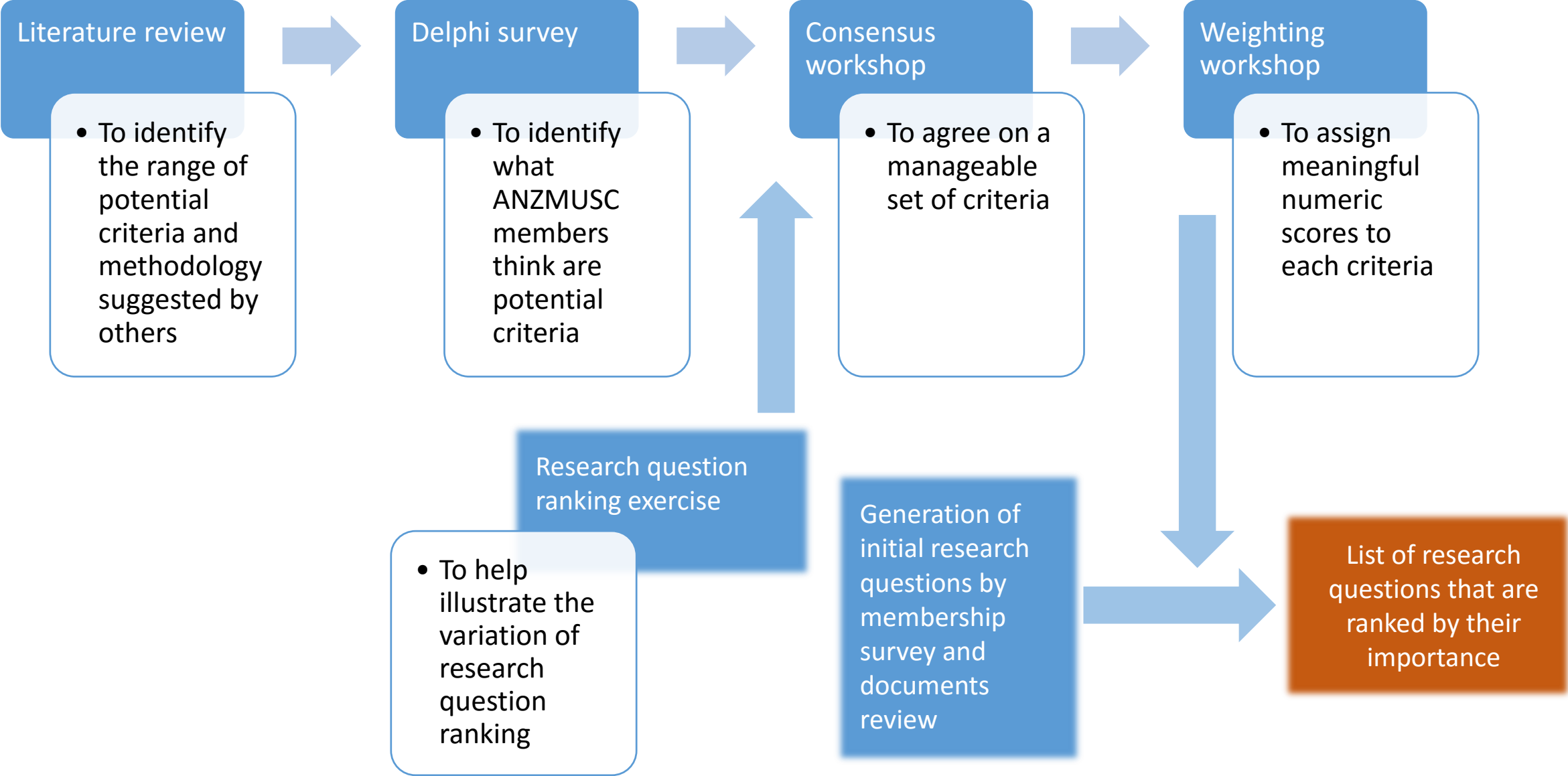
# Typical approaches to research prioritisation



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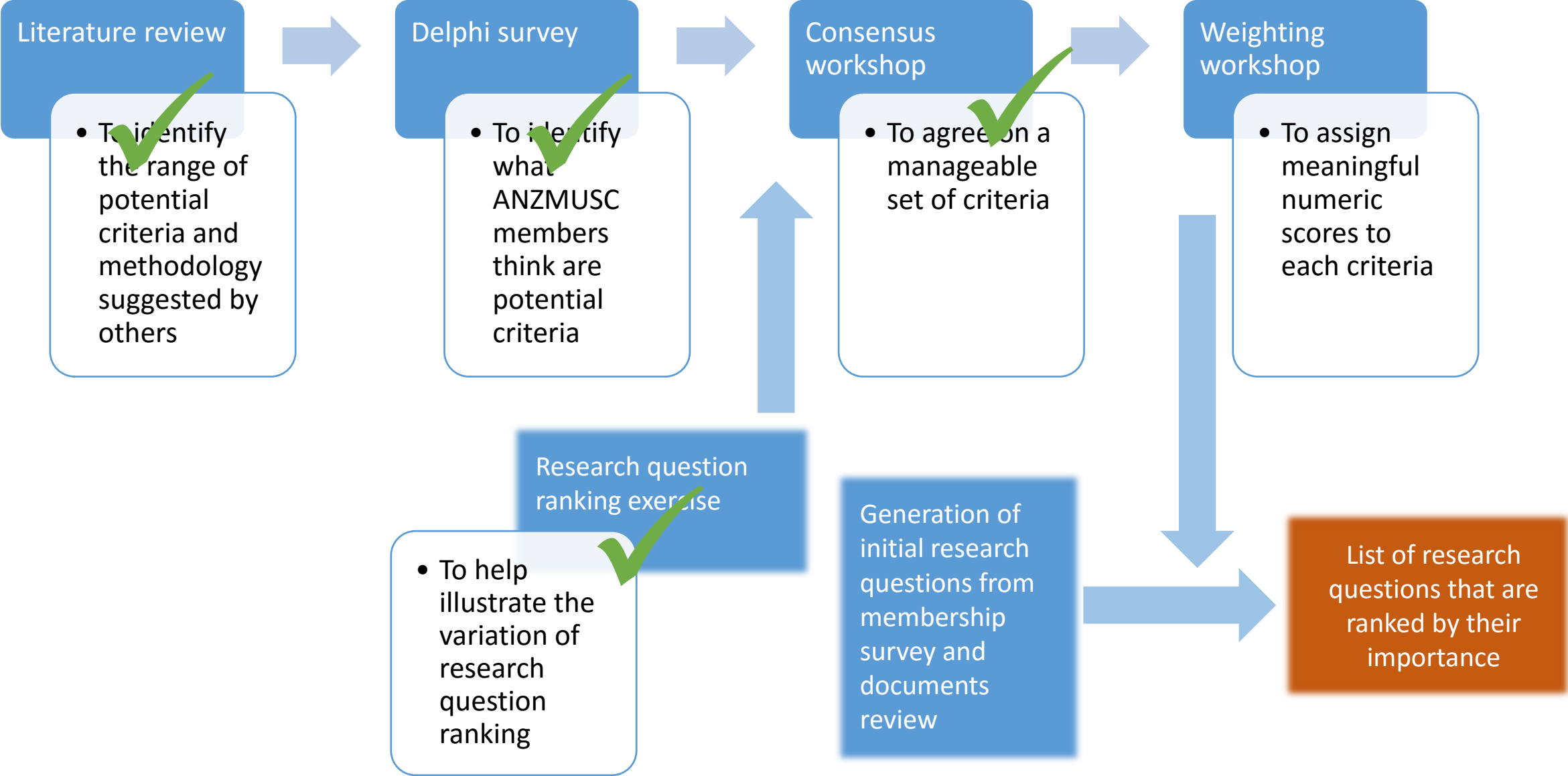


# The prioritisation project





# The prioritisation project



# Delphi Survey Results

- The first survey was completed by 66 ANZMUSC members and elicited 347 possible determinants of research question importance.
- The 347 determinants of research question importance were organised into 43 non-duplicate items for subsequent rating.
- The final list of 32 items with median ratings of at least 7 (possible range 1 through 9) were grouped under five themes for ease of understanding the factors that contribute to research question importance, and ordered by median rating.

Nature of the condition (36)	Nature of the intervention (50)	Potential for impact (66)	Broad appeal (56)	Project is able to deliver (21)
Condition has a high patient and social burden (8)	Extent to which the intervention could prevent disease or disease progression (8)	Addresses large practice-evidence gap (8)	Agreed importance for funders, consumers and providers (7)	The extent to which the question can be robustly answered (testable) (7)
Condition has few effective treatments (7)	Intervention is easily and widely implementable (7)	Results have potential for fundamental shifts in understanding (8)	Extent to which the question is important to consumers (7)	Study is highly likely to be completed (7)
Highly prevalent condition (7)	Tests interventions that are easily and widely accessible to consumers (7)	Results likely to lead to real world changes in clinical care (8)	Results are likely to influence government policy (7)	Study will lead to a definitive answer to the question (7)
Area of research with little prior work or where prior work is not definitive (7)	Tests intervention in clinical use that have questionable or unknown benefit (7)	Results likely to lead to cost-savings for consumers and/or the healthcare system (7)	Results likely to advance knowledge in other fields (7)	
Condition is costly (7)	Addresses the safety of an intervention (7)	Tests interventions with likelihood of significant benefit (7)	Extent to which the question is important to clinicians, consumers and funders (7)	
	Test of interventions as they are delivered in real clinical practice (7)	Results have potential for the cure of a health condition (7)	Extent to which the question is important to consumers and clinicians (7)	
	Addresses timing of delivery and best combinations of interventions (7)	Study is able to identify the most responsive subgroups (7)	Question is a priority for policy-makers and funders (7)	
		Results likely to improve treatment access, especially equity of access (7)	Extent to which the question is important to clinicians (7)	
		Advances methods for improving implementation into practice and adherence (7)		

# Research question ranking exercise

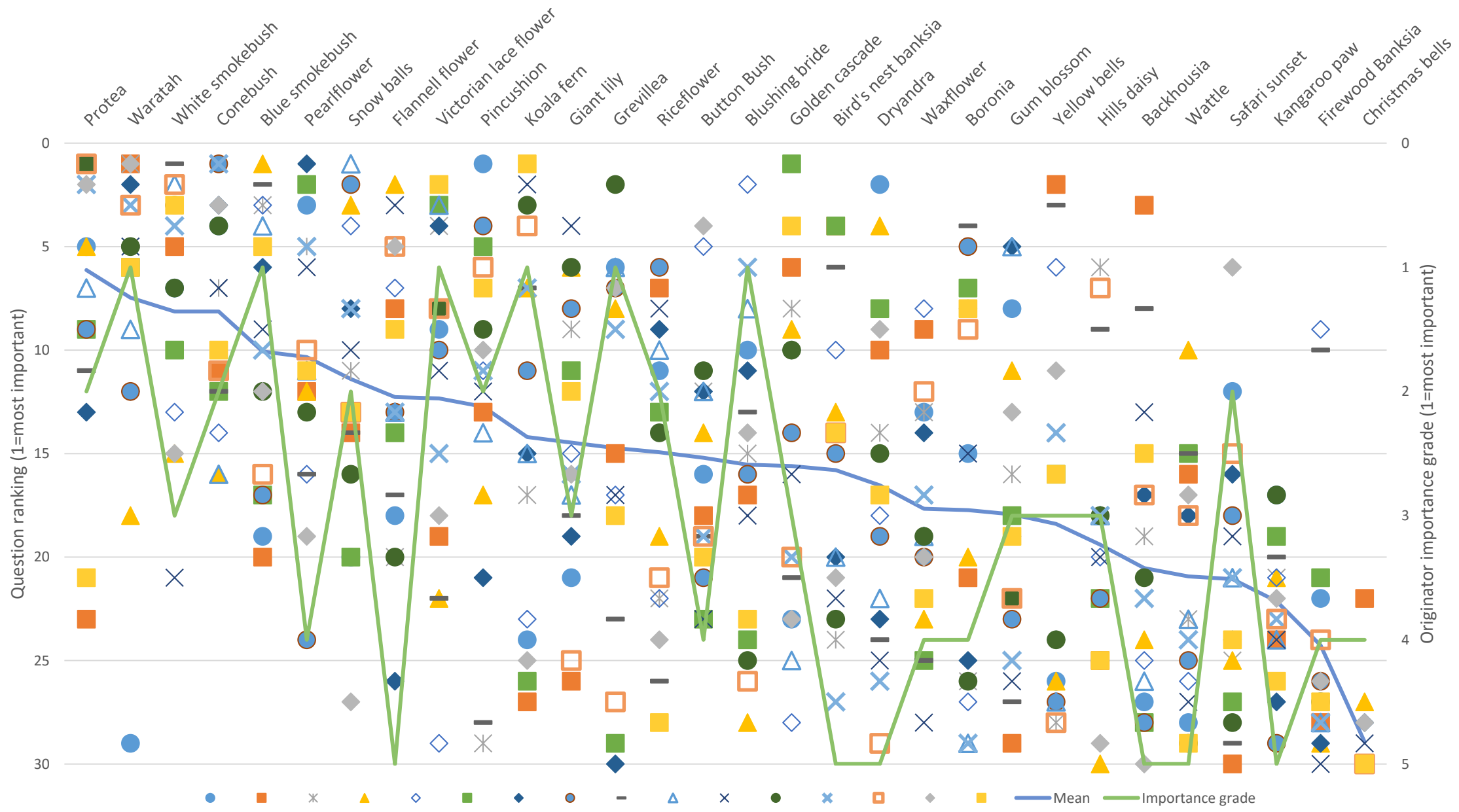
- The aim was to provide another focus for discussing the domains that underpin the importance of a research question; why are some questions highly ranked and some lowly ranked; why is there variation?
- From 227 research questions, we selected 30 to provide a range from not very important to important research questions
- The task was to sort these into order of most important first and least important last

# Brisbane consensus workshop

- (1) pre-workshop data-gathering exercises (scoping literature review, a Delphi survey of ANZMUSC members, and a research question ranking exercise by workshop participants);
- (2) review of these pre-workshop activities;
- (3) facilitated discussion on what makes a research question important using selected research question examples from the ranking exercise;
- (4) small group activities that developed key dimensions and categories of each dimension that described the underlying basis of research question importance;
- (5) facilitated discussion and voting for alternative descriptions of the dimensions and categories.

# Workshop participants

- Workshop participants included the facilitator (DO), workshop leader (WJT) and 22 participants
  - 4 consumers or consumer advocate,
  - 3 research funders or insurance provider,
  - 2 sport and exercise medicine physicians,
  - 4 physiotherapist or chiropractic researchers,
  - 4 rheumatologist researchers,
  - 1 orthopaedic surgeon researcher,
  - 2 biostatistician or MSK researcher, and
  - 2 primary care doctor researchers).



# Reasons for importance ranking

- More highly ranked questions
  - high patient burden of disease and prevalence
  - identification of patients most likely to benefit from an intervention
  - widely used interventions that had a poor evidence base.
- More lowly ranked questions
  - animal model studies
  - testing interventions known to be ineffective or known to be effective
  - testing interventions with little prospect of scalability or uptake
  - diagnostic research not linked to patient outcomes or benefit.
- There was some discussion about the feasibility and design of the study that would address the research question and whether this should come into the evaluation of intrinsic importance of the question itself. It was generally considered that these issues should be evaluated separately and are different from the issue of research importance.



# Draft dimensions of research question importance (6 key dimensions)

1. Extent to which the question is important to patients and other health decision-makers
2. That it addresses an area of high patient burden
3. That it addresses an area of high social burden
4. Potential reduction in patient and/or social burden due to (clinical or implementation) intervention
5. Potential scalability and uptake of intervention
6. Extent to which the question addresses health equity

# 1. Extent to which the question is important to patients and other health decision-makers

<b>Category</b>	<b>Descriptor/definition of the category <sup>1</sup></b>
1A Not shown to be important to either patients or decision-makers	No clinician or relevant healthcare consumer consultation
1B Shown to be important to health decision-makers but not patients	Relevant healthcare consumers not consulted or do not rate research question highly
1C Shown to be important to patients but not decision-makers	Relevant healthcare consumers rate research question highly but other health decision makers do not
1D Shown to be important to both patients and decision-makers	Relevant healthcare consumers and other health decision makers (not researchers only) rate the research question highly.

## 2. That it addresses an area of high patient burden

<b>Category</b>	<b>Descriptor/definition of the category <sup>1</sup></b>
2A Low	Mild symptoms and little or no associated disability
2B Medium	Moderate symptoms and some disability
2C High	Significantly disabling, associated with mortality risk or no effective treatments available

### 3. That it addresses an area of high social burden

<b>Category</b>	<b>Descriptor/definition of the category <sup>1</sup></b>
3A Condition is rare	(<0.1% prevalence)
3B Condition is somewhat common	(0.1 – 1% prevalence)
3C Condition is common	(1 – 10% prevalence)
3D Condition is highly prevalent	(>10% prevalence)

## 4. Potential reduction in patient and/or social burden due to (clinical or implementation) intervention

<b>Category</b>	<b>Descriptor/definition of the category <sup>1</sup></b>
4A Symptomatic treatment only and small potential effect size	Intervention has potential to only improve patient symptoms to a modest degree (anticipated effect size <1)
4B Symptomatic treatment and large potential effect size	Intervention has potential to only improve patient symptoms to a substantial degree (anticipated effect size >1)
4C Potential for intervention to treat both symptoms and underlying disease pathology	There is a plausible case that some pathophysiological consequences of disease (eg anatomical damage) could be prevented
4D Potential for cure or fundamental alteration of disease course	There is a plausible case that the disease could be rendered entirely non-active with minimal risk of recurrence, with or without ongoing treatment

## 5. Potential scalability and uptake of intervention

<b>Category</b>	<b>Descriptor/definition of the category <sup>1</sup></b>
5A Low potential for scalability and uptake	Prohibitive costs to patient or healthcare system, major systems restructure; and substantial behaviour/belief change by clinicians or patients
5B High potential for uptake but low scalability	Minimal behaviour/belief change by clinicians or patients required but prohibitive costs to healthcare system, major systems restructure
5C High potential for scalability but low potential for uptake	Immediately feasible with minimal changes required to healthcare system but requires a substantial change in patients/clinicians beliefs or behaviour or has high direct patient costs
5D High potential for both scalability and uptake	Immediately feasible and minimal behaviour/belief change by clinicians or patients required

## 6. Extent to which the question addresses health equity

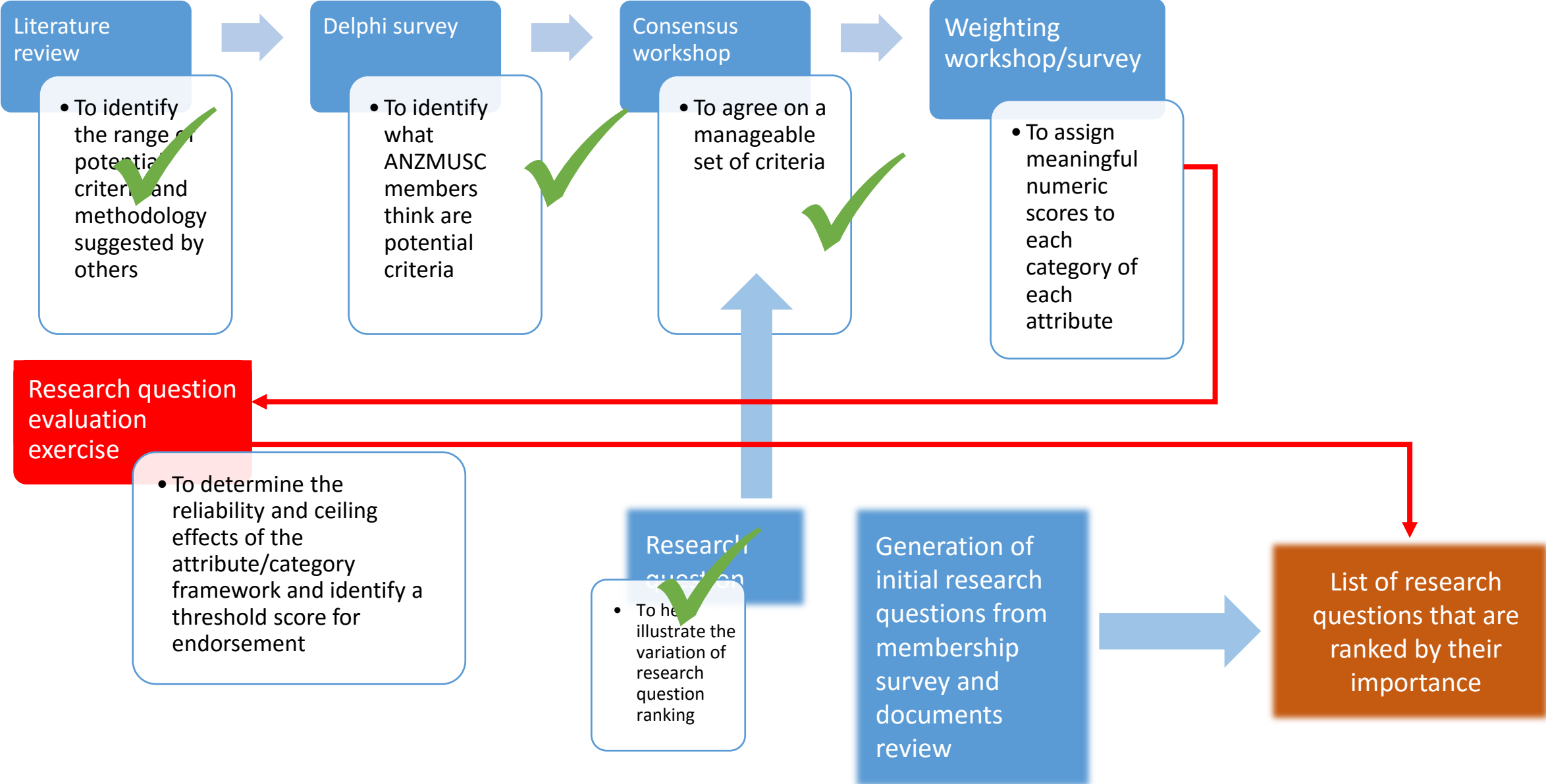
<b>Category</b>	<b>Descriptor/definition of the category <sup>1</sup></b>
6A No information	No attempt to address health equity
6B Not relevant	Discussed using Progress Plus items (O'Neill et al., 2014) but intervention not relevant or appropriate
6C Somewhat (may have some application to reduce health disparity)	Intervention shown to have some potential application to improving health equity issues
6D Reducing health disparity is the focus	The intervention is explicitly designed to improve health equity issues

# Further work required

- Can the attribute/category framework be reliably applied to actual research questions?
- Should each attribute/category be valued equally?
- Will there be an unacceptable ceiling effect?
- Where should the threshold be set to identify 'important enough' questions to allow ANZMUSC apply its endorsement criteria?



# The prioritisation project 2.0



# Acknowledgements

- MOVE supported the costs of the consensus workshop
- Denise O'Connor (Melbourne) facilitated the consensus workshop
- Workshop participants

