# An introduction to Research Priority Setting (RPS) for research groups in the Cochrane Collaboration

Guidance sheet -1 - What is research priority setting and what you need to do before starting?

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What is Research Priority Setting?

*A collective activity for deciding which uncertainties are most worth trying to resolve through research; uncertainties considered may be problems to be understood or solutions to be developed or tested; across broad or narrow areas* (Sandy Oliver).

Figure 1 is providing the steps that a RPS exercise might include. All RPS exercises that we have identified up to now have included all or some of these steps in their approach (however, they do not necessarily report all steps in one report).

Figure 1 - Wheel of RPS exercises[[1](#_ENREF_1)]

A RPS exercise is initiated, designed and implemented in a specific context, setting and population with specific principles, values and preferences. A research group selects different methods to fulfil each of the steps of a RPS exercises as outlined in Figure 1. It is important that methods are selected that have a reasonable chance to help the group in achieving their objectives. If the objective of a RPS exercise is to engage with stakeholders from disadvantaged groups in a developing country, an online Delphi consensus approach has a limited chance to reach them. Ideally selection of the methods needs to be done based on the most recent empirical evidence (see our commentary in Journal of clinical epidemiology that gives some indication of recent empirical research [[2](#_ENREF_2)]).

Similar to any project, the research team needs the required skills to effectively conduct certain methods, and also effectively manage the project. It is common that research teams not consider adequately the role of a chair or facilitator for the stakeholder engagement step, so that diverse groups of stakeholders can be effectively engaged and involved in the priority setting process. Research teams and associated stakeholders are people with a certain social and cultural background and bring their own views, values and preferences in their group. The social dynamics and power relation between these individuals affect the conduct and results of a RPS exercise, Figure 2

**Social Dynamics**

Figure 2- Wheel of RPS exercises (2) [[1]](#footnote-1)

RPS exercises could be as a decision making tool to improve the management of an organization and support better decision making. However, they are also a research tool aiming to minimize bias in the research agenda in a certain health care field.

RPS exercises could help in identifying overall gaps in the research agenda (imbalance in the number of high quality research projects conducted in drug related topics versus behavioural intervention topics) or the construct of a research question (imbalance in the number of high quality research focusing on biomedical outcomes versus patient relevant outcomes).

## Before starting a RPS exercise:

### Step –1 -Defining the level of RPS

*Macro-level:* identifying and prioritising broad topic areas for the group to define the general direction of the group in a specific field

*Meso-level*: identifying and prioritising research questions for the group. The questions might be broad and narrow depending on the data (qualitative or quantitative) derived from the exercise

*Micro-level*: identifying and prioritising focused clinical questions for systematic reviews. The questions are constructed to be addressed either by a Cochrane Systematic Review or Cochrane Overviews of Review. However, this is the most difficult one as there are still a lot of open methodological questions how we best can translate uncertainties of our stakeholders into focused questions for systematic reviews.

### Step 2 – Setting up systems to collect the required data to inform the RPS exercise

The quality of your research priority setting exercise partially depends on the quality and availability of the necessary data to inform your decisions. Examples of data that are collected: Cochrane groups usually have registries of clinical trials and defining areas in which we have a large amount of clinical trials; Cochrane Fields tag Cochrane groups based on topic areas e.g. Child health and provide a map on potential gaps in the current reviews; Wiley (the publisher of the Cochrane Library) collects data on the usage of Cochrane reviews. There are other types of data that review groups can collect to inform their work: (a) collecting data on research priorities identified by research priority setting exercises outside the collaboration (b) burden of disease data in their own clinical area (c) regular survey engaging with the stakeholders of Cochrane groups.

### Step 3 – Building the group to establish partnerships with stakeholders

Research Priority setting is a collective social activity. The research group needs to define who needs to be part of this collective activity and to whom is the RPS exercise accountable. Engaging with stakeholders usually requires building longer term relations between different stakeholders groups, understanding the best approaches to communicate and engage with them, sharing respective views and understanding about research and sustaining communication and updates during the process to maintain momentum and interest. This might require some capacity building or discussion workshops to ensure that different stakeholders have the same understanding on the definition and structure of the related research projects. Some groups might find a mapping exercise whereby drawing a diagram of actual and potential stakeholders and drawing lines representing the relationships (strong, weak, influential etc) as a useful first step to identify the stakeholders that they work with. It is also important to reflect the cultural, ethnical and organizational differences in the stakeholders that might affect the process of reaching a consensus in research priority setting. Moreover, the group requires having a clear idea of the level of engagement that the group is planning to have with those groups. The ladder of citizen participation can be a good guide on reflecting on the mechanism of engaging with stakeholders. Depending on the complexity of the topic, you might require several informal meetings and discussions with stakeholders groups so that concerns can be elicited, and their complexity revealed and understanding the areas that might be more controversial than others[[3](#_ENREF_3)]. It is important that you are clear with your stakeholders that you are focusing on concerns and uncertainties that they have around health care rather than their opinion about research. The discussion should aim to identify the most pressing uncertainties/problems that stakeholders face and the areas of practice or policy that shapes (or could shape) those pressing problems.

Figure 3 - a ladder of citizen participation (Arnstein 1969) [[4](#_ENREF_4)]

The nature of the prior engagement with stakeholders might differ depending on the topic itself and controversies around it along with the social and political context in which the discussions are conducted. Sometimes, there is a need for processes of negotiation preceding the prioritization to prepare the grounds to ensure a constructive discussion in a research priority setting exercise.

#### Step 4 – Clarity and transparency on the objectives of the exercise

The objectives of the exercise define should the methods and approaches that are used to construct the research priority setting exercises. As RPS exercises sit in the overall pathway of constructing, conducting and implementing research, therefore, the sole aim of a RPS exercises is not limited to developing a list of research questions. They provide additional value for example changing the power relations, or how the allocation of resources in research are decided (either financial resources or human resources), provide opportunities for mutual learning between stakeholders, facilitate establishing partnerships and make the group more accountable and transparent towards their stakeholders and users of systematic reviews. The success of a RPS exercise depends on the ability of the team in developing clear objectives and having a coherent plan in selecting methods and process have the highest chance in achieving these objectives.

##### *What are you looking for in a RPS exercise?*

As explained beforehand, you need to have clarity about the objectives of your research priority setting project and how you conceptualize the engagement of different stakeholders. This also extends to what is the question/topic that you are looking for in in priority setting process, is it a broad area or a specific question? If you ask a group of people, what do you think should be research priorities; they might associate research with some fancy, futuristic (maybe even sci-fi like in TV/movies). I once asked a dentist what he thinks should be our research priorities and he gave me an example of something that he had tried on a monkey and was wondering whether we could do the same research on humans. In reality, dentistry is an area where there is huge amount of uncertainty around the effectiveness of conventional dental interventions. However, the misconception of the dentist (whom I approached) that research is focused on something new and innovative that nobody has tried, rather than looking back on our uncertainties was interesting.

I had a similar situation when asking a member of the public about dental research and she asked me why isn’t there more research on a vaccine for dental caries. If you ask the same people, what are your uncertainties and questions around the dental care that you practice or received. They come up with a lot of critical questions on their uncertainties. Both approaches can be potentially valid depending what you are hoping to achieve from a research priority setting exercise.

In the Cochrane Collaboration, we usually conceptualize questions in the form of PICO (or variations of it with other questions). Some Cochrane groups use a more a more detailed approaches to conceptualize and construct questions using the GRADE working group methodology [[5](#_ENREF_5)]. Some research priority setting initiatives like James Lind Alliance and PenCLAHRC tried to use the PICO structure to collect questions from stakeholders with different level of success (PenCLAHRC attempted to enhance the engagement of stakeholders by accompanying the PICO with a plain language summary description of the questions)[[2]](#footnote-2). The James Lind Alliance initiative conceptualizes the topics that they gather in a priority setting exercise as uncertainties about the effects of treatments and give some generic examples to help people (although people do not necessarily always adhere to it)[[3]](#footnote-3). Previous experience by James Lind Alliance has shown that complex surveys using PICO or incorporating lots of demographic info increases the attrition rate and yield with much less useful information. Many of the research priority setting exercises do not report that they have attempted to conceptualize the question/topic beforehand and leave it to stakeholder to decide. This can be a potential source of problems especially in a diverse group of stakeholders. People’s interpretation of the concept “research questions” might vary (this could be people who are sharing their views or people who are analysing data to derive with new questions) and makes it more complicated to find consensus. This lack of clarity and discordance can potentially adversely affect the research priority setting exercises and results in questions that are difficult to interpret, aggregate, prioritise and more critically be used by researchers. The finalised list of questions might end up being uninformative for researchers and research organizations.

The research priority setting group needs to also decide how much contextualised information (and the nature of the information) they want collect along with the questions. This information can be valuable to understand why the question is important, why it needs to be prioritised. It can also help future researchers (if the question is prioritised) to understand how to refine, construct and design the research questions. In the question /topic identification step, this information can be used in two ways (a) translating the topic/question into a more coherent structure: in some priority setting exercises, the group translate the topic/question into a more coherent and harmonized structure and this requires some understanding on the context to ensure that the question doesn’t get ‘lost in translation’. This applies both to a situation in which the question is derived from engaging with stakeholders and from the data analysis (b) ranking the topic/questions, the information can be used to inform a consensus group to rank the topic or used in analysing the data to rank them. This collaboration (and discussion) around the contextual information around the question also provides a wider “mutual learning” opportunity between the researchers and stakeholders (information derived from the data).

Some groups might prefer to develop a strict structure how they collect questions to prioritise but others might prefer to engage with stakeholders first (as part of your preparation step) and discuss how they mutually conceptualize research questions and what they are intending to get from your exercises. This can be helpful in establishing a shared understanding on this topic between stakeholders and has the additional benefit that the group would have an opportunity to capture some of the complexity that might come up in some questions that might be lost if you restrict people to a clear structure.. Obviously, this approach can only be useful if you have a smaller number of stakeholders that you engage with in person and wouldn’t work as part of a big online survey.

Research questions can be derived from stakeholders (patients, practitioners, policy makers, etc.) but they can also be derived from other data sources. Most Cochrane reviewers are familiar with the ‘implications for research’ part of a review that can be constructed in a structure form and can be used in a research priority setting exercises as a source of questions for primary research. For systematic reviews, you might have structured or unstructured recommendations for future systematic reviews from overview of reviews or clinical guidelines. Other data-driven sources of research questions are burden of disease, research usage/health information usage data (in the case of the collaboration, library usage data). Most of the ways to conceptualize questions that are suggested here focus on the concept of finding gaps on what we know, and filling them as a priority. Another way to conceptualize is to identify ideas that could be important in the future but are not necessarily big now (“foresighting” approach). This can be of relevance to the collaboration in prioritising methodological innovation or even in the field of review groups around prospective meta-analysis.

The conceptualization of research questions/topics as part of the prioritisation also guides and defines the methods to translate the topics into a focused research questions for a Cochrane review. There is a remarkable amount of work done on the issue around “outcome selection” inside and outside the collaboration as part of this translation (or refinement of the topic) outside a prioritisation process. However, the possibilities to use them as part of constructing research questions are not adequately explored. The James Lind Alliance Eczema partnership (which was triggered by lack of evidence in a Cochrane review and used to guide future primary research) also provided some steps in engaging through a workshop[[6](#_ENREF_6)]. Other organizations used also intensive approaches to refine and translate questions e.g. AHRQ [[7](#_ENREF_7)].

#### Step 5 – Available Resources and Timeline

Research priorities change over time. Therefore, it is critical that they are regularly conducted, or preferably there is a continuous plan to conduct a RPS exercises in specific time points. The group needs a clear idea on the available resources, as these are limiting factor in defining the methods and processes that can be used to conduct a RPS exercise. A resource intensive RPS exercises that takes a few years to be conducted might end up with out of date priorities.

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### 4. Arnstein, S.R., *Ladder of Citizen Participation.* AIP Journal, 1969: p. 216-224. Available at: <http://www.planning.org/pas/memo/2007/mar/pdf/JAPA35No4.pdf>.

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### 7. Buckley, D.I., et al., *The Refinement of Topics for Systematic Reviews: Lessons and Recommendations From the Effective Health Care Program*. 2013, Rockville MD.

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2. http://clahrc-peninsula.nihr.ac.uk/submit-question.php [↑](#footnote-ref-2)
3. http://www.library.nhs.uk/duets/ [↑](#footnote-ref-3)