

Prioritization of research

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2.7.1 Learning objectives

To understand the key factors to consider when preparing, developing and evaluating a research prioritization exercise in health emergency and disaster risk management (Health EDRM), including:

1. The importance of careful selection of priorities for research.
2. Practical steps in setting priorities.

2.7.2 Introduction

Research prioritization is usually defined as an interpersonal activity that leads to the selection of the topics to be studied and the methods to be used in research (1). The results of the exercise do not always directly match the final decisions that are made by governments or organizations as to what research to conduct, but they can be useful for guiding such decisions. A level of flexibility may be needed to be responsive to important political issues that arise, meaning that pre-set priorities may be amended to take account of the situation.

In Health EDRM, priority setting might be done at the level of the research group trying to develop a specific research question, or at an organizational level – such as within a nongovernmental or governmental organization or UN agency that is trying to develop a broader research area, which might then be refined to one or more specific research questions.

The objective of a research prioritization exercise depends on the context in which it is conducted, the political, social and organizational processes that led to its initiation and the managers, professionals, practitioners, policy makers and ultimate beneficiaries of the process (often referred to as stakeholders). Some examples in Health EDRM include:

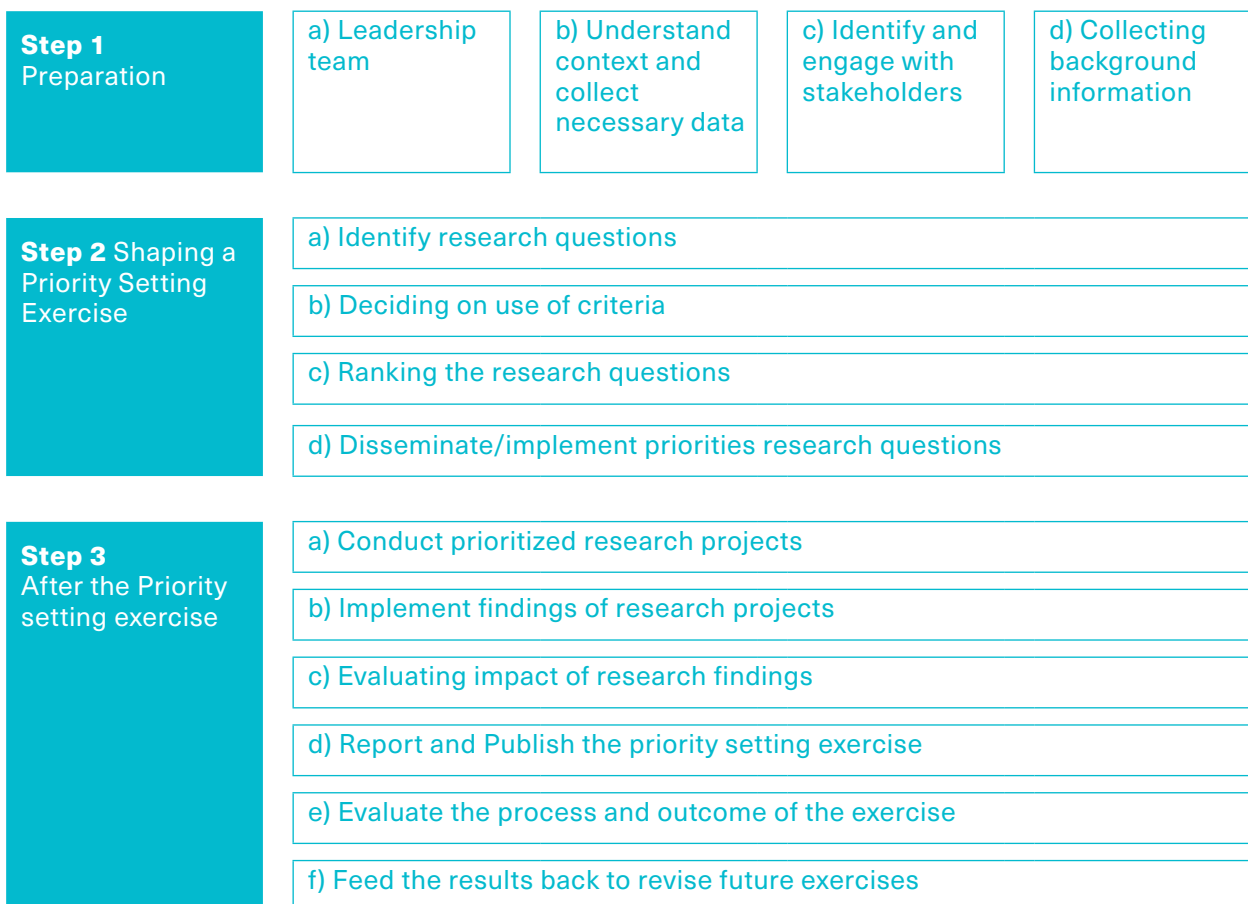
- Evidence Aid's priority setting exercise to identify thirty priorities for up-to-date systematic reviews of the effects of interventions, actions and strategies on health outcomes, which would be particularly

relevant to those involved in disaster risk prevention, preparedness, response and recovery (Case Study 3.5.3 in Chapter 3.5) (2).

- WHO's gathering of healthcare practitioners to identify key research priorities around the role of nurses and midwives in emergency responses (3).

There is no consensus as to the scope or depth of a research priority. It may be broad (such as “more research on tropical diseases”) or specific (such as “the cultural drivers of the spread of the Ebola virus in the DRC in 2019”). However, there is consensus about various elements that are likely to support a quality research prioritization exercise (Figure 2.7.1). These elements can be grouped into three steps: things to do *before* the priority setting exercise (preparation), things to do *during* the exercise, and things to do *after* the exercise.

Figure 2.7.1 Elements to support a research prioritization exercise



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2.7.3 Step 1: Preparing for a research prioritization exercise**Step 1a Leadership team**

The prioritization exercise will need a team to design, lead and monitor its implementation. The team needs to identify people, skills and resources required to complete the project. Technical skills, such as managing information, visualization or effective data collection, are important. However, interpersonal skills are also crucial, including effective communication, relationship building with those involved in disaster risk management including response, disaster research and the ultimate beneficiaries of the research and service, coordinating and chairing discussions, and the ability to analyse political situations in order to decide on appropriate strategies and tactics.

Step 1b Understand context and collect necessary data

Before embarking on a new prioritization exercise, it is important to understand the context for it, including whether there are any other similar or otherwise relevant exercises, any high level strategic priorities that have already been set, or any critical political decisions that have been made, which should influence or inform the exercise.

Viergever and colleagues (4) categorize the contextual issues affecting the process of research prioritization as available resources, focus of the exercise, values of those involved and the underpinning health, research and political environment. For example, a specific contextual issue relevant to Health EDRM research is the underlying causal factor that might influence how badly a disaster affects the community. This includes the degree of exposure and vulnerability of the society (Chapters 1.3 and 3.2) (5).

Step 1c Identify and engage with stakeholders

As part of the preparation for the prioritization exercise, the team needs to identify who should be involved in setting the priorities, including the people, organizations and governments, remembering that each of these has many different layers. For example, government might be at the local, regional or national level. WHO's report on research for health also mentions civil society organizations, philanthropic bodies and industry as important stakeholders in a prioritization exercises (6). Others who might need to be involved include patients, the general public, universities and research institutes.

Some key questions that should be considered in choosing the individuals to engage in the process are:

- Who are the individuals who will benefit or use the results of the prioritized research?
- Who are the individuals who have knowledge and oversight of the major issues that are likely to have an impact on those affected, or have influence and impact (such as politicians or managers of humanitarian aid organizations)?
- Who are the individuals who have direct knowledge of what happens in the field and in routine practice (such as healthcare workers in disaster areas, those who were directly affected and those providing support for them after a disaster or those who have local knowledge)?

- Who are the individuals who have a key role in supporting or implementing the research (such as academic organizations, philanthropic bodies and industry)?
- Who are the individuals who have a key role in moving the results of the research into policy and practice (such as healthcare professionals and workers, politicians and policy makers)?

In order to ensure proper engagement of stakeholders in the process, it is important to consider how they are involved, to ensure true involvement and avoid tokenism. The series of questions in Table 2.7.1 can help to guide these decisions (7).

Table 2.7.1 Using an equity lens to set research priorities: questions to consider

1. Are a variety of stakeholders who might be affected by the choice of research topics involved in the prioritization process (such as people who differ in age, sex, sexual orientation, disability, ethnicity, religion, place of residence, occupation, education, socioeconomic status, and social capital)? In which steps are they involved? It is important to have an audit process to ensure that those communities impacted are included in the process.
2. Does the prioritization project consider reducing inequity as part of its objectives?
3. Are the methods and tools selected to identify prioritize, implement, disseminate and communicate research topics understandable, transparent and relevant for different stakeholders? For example, if the target population is multi-lingual and the researchers only use tools that are in English, this will not provide equal opportunities for the whole population to be involved – translation or using images might help to address it. It is important to consider that the readiness, availability and tendency of the stakeholders to respond to the survey or data collection is variable. Some might respond quickly and in a timely manner while others may need more time. Some may require evidence that their contribution is taken seriously or require support and empowerment before dedicating time and resources to contribute to the process.
4. Have specific strategies been considered to minimize the barriers to participation by disadvantaged or less accessible populations (this can be physical accessible such as population living in remote areas or other aspect of accessibility such as population that speaks a less known or used language)?
5. Does any situation analysis (such as evaluating current research coverage, identifying gaps and evaluating healthcare needs) consider the differences in the prevalence, severity and urgency of health problems along with potential differences in the impact or value of the interventions assessed across different subgroups?
6. Do the criteria for prioritization consider potential differences in the severity and urgency of health problems in disadvantaged populations or less accessible groups, as opposed to the health problems in privileged populations? Criteria refer to factors that individuals use to rank the research topics and questions. These criteria might be predefined or defined during the process.
7. Do the criteria for prioritization consider the potential differences in the impact of an intervention in disadvantaged populations, as opposed to the problems in privileged populations?

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8. Do the criteria for prioritization consider that different population groups might have different values and preferences? This does not only refer to individuals' values with regard to health issues but the larger impact of research on cultural values.
9. Are different stakeholder groups provided with an opportunity to provide feedback and appeal the methods and results of the prioritization process?
10. Did the prioritization result in research topics that are relevant to disadvantaged groups? This can be topic areas that are relevant to the daily life of disadvantaged groups (on an individual level) or reducing inequity (on a community level) – or topics that cover both areas.
11. Does the dissemination and implementation strategy increase the likelihood that funders and research institutes become aware of the prioritized research topics and consider them as part of their research agenda or strategic planning?
12. Does the dissemination and implementation strategy increase the likelihood that prioritized research topics of relevance to disadvantaged groups get funded and conducted?
13. Does the dissemination and implementation strategy increase the likelihood that researchers who work with disadvantaged groups will conduct or get involved in the prioritized research projects?
14. Does the dissemination and implementation strategy increase the likelihood that disadvantaged groups or decision makers or practitioners who work with disadvantaged groups get involved in the prioritized research?
15. Does the dissemination and implementation strategy increase the likelihood that policy makers and decision makers who work with disadvantaged groups will use the findings from the prioritized research?
16. Did the results of the prioritized research topics change policies, legislation or clinical practice in favour of disadvantaged groups?
17. Did the appeal and enforcement strategy increase the likelihood that disadvantaged groups or decision makers, researchers and practitioners who work with disadvantaged group will provide feedback and comments on the prioritization process or its results?

For all the individuals involved in the priority setting process, it is important to consider how they may have different values and preferences based on their characteristics, background, knowledge and skills and how these will be represented, including different socioeconomic or racial groups. The acronym PROGRESS PLUS can be useful in identifying pockets of vulnerabilities within the beneficiaries of the research. PROGRESS PLUS defines axes of potential disadvantage: Place of residence, Race/ethnicity/culture/language, Occupation, Gender/sex, Religion, Education, Socio-economic status, Social capital and other characteristics ('Plus') such as sexual orientation, age and disability. These characteristics identify whether certain communities of populations are disadvantaged due to "social, political and legal structures and processes". During the preparation phase for the exercise, the lead team should identify all groups and communities, including disadvantaged groups, that are relevant to the topic area and ensure that individuals involved in the priority setting process represent those dimensions (8). Case Study 2.7.1 highlights how the values and preferences of stakeholder groups can differ.

Case Study 2.7.1

Values and preferences of different stakeholders: research priorities for mental health and psychosocial support in humanitarian settings

A research prioritization exercise for mental health and psychosocial support in humanitarian settings was conducted in the Republic of Peru, Uganda and Nepal, with 114 participants. These included policy makers, academic researchers and humanitarian aid workers; covering a range of disciplines (psychiatry, psychology, social work, child protection, and medical anthropology) and organizations (governments, universities, non-governmental organizations and UN agencies).

The team conducted focus groups with each stakeholder group separately, to identify their priorities, before comparing and contrasting these priorities.

Although some priorities for research were similar between the groups (such as the prevalence and burden of mental health and psychological distress), there were areas of disparity. For example, academics gave more priority to research about improving methods and processes and obtaining long-term results, while aid workers and policy makers were more interested in projects that could be interpreted quickly and would have immediate results. Some aid workers even raised concerns that research could be a waste of time. This suggests that it may be important to identify and prioritize research questions that include both the long-term impact of Health EDRM and short term results in order to increase engagement with field and aid workers (9).

People who study or conduct research prioritization often fail to report in adequate detail how the values of individual stakeholders affected the interpretation and use of data in the process. For example, the US National Academy of Medicine Committee on Health Care Technology recommends collecting or estimating “data for the prevalence of specific conditions, the unit cost of the relevant technology, various uses of the technology, the burden of illness addressed by the technology, and the potential of the results of technology assessments to affect health outcomes and costs”. The difficulty with this approach is that the collection, analysis and presentation of data are buried under layers of assumptions and value judgements that may not account fully for the true values and perceptions of different stakeholders. This variation can justify different decisions about collecting or analysing data. For example, different approaches to defining the burden of illness can lead to different decisions on research priorities. It is therefore important that the reporting of the results of the prioritization exercise should be as detailed and specific as possible about the data that were used, the methods that were applied and who was involved in different stages of the process (10–11).

Step 1d Collecting background information

Research prioritization should be evidence-based and guided by reliable information. When preparing for a prioritization exercise, it is important to identify and access relevant routinely collected data and studies that have already been conducted, and use interviews, case study materials or surveys to gather up-to-date knowledge, information from the stakeholders

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and missing information. The most difficult part may be to identify the key operational questions from field workers and examples about what has helped or hindered them in past responses, as field workers will be under pressure to deal with the imminent needs of those affected by an emergency or disaster and research is unlikely to be a priority for them. This highlights how research into the preparedness of different parts of the disaster response system may be a priority. For example, a paper by Rosner and colleagues describes in detail how the preparedness to shift public health services in response to an emergency helped in the 9/11 attacks on the World Trade Centre, how the different services responded afterwards and how this might be improved in future (12).

Ideally, part of the exercise should include systematic searches to explore whether the identified research questions are indeed real research gaps or needs (Chapters 2.6, 3.6 and 3.7).

The prioritization process should also consider current sources of research funding (Chapter 6.3) and research capacity for the specific topic and setting. This can also provide information on research that has been done or is currently being conducted, what advances are most achievable, and what is most likely to be supported in the future. Moreover, it can highlight reasons for research gaps (Chapter 3.7) and how these might be addressed. For example, some donors and funders might place restrictions on how their money can be used and research gaps may exist because of these restrictions. It may also be important to consider whether the focus of the research should be on a specific event or type of emergency or disaster or use a holistic approach to study the impact of emergencies and disasters generally. For example, some areas in the Philippines are dealing with repeated disasters of different types that impact on efforts to rebuild the community (13).

2.7.4 Step 2: Shaping a priority setting exercise

A simple way to conduct a research prioritization exercise is to bring people with relevant knowledge together in a meeting and help them to achieve consensus on the most important things to study. However, these group conversations are known to have strong biases and errors (due to undue influence by individuals who are most vocal, for example). Therefore, tools and methodologies have been developed to guide organizers of priority setting exercises. Examples of tools are object mapping and the use of images to facilitate storytelling (14, 15).

The methodologies that have been developed to guide priority setting all adhere to the same set of steps, depicted in Figure 2.7.1. This section describes steps 2a, 2b and 2c, which help to make the prioritization process itself more systematic, transparent and evidence-based.

Step 2a Identifying research options

The first step of the priority process itself is to identify all relevant research options within the scope of the priority setting exercise (bearing in mind that the team should have already defined the scope of the exercise under Step 1: Preparation). There are many different ways in which the team can identify research options.

Conduct a literature review in the field that is the scope of the priority setting exercise on:

- the current state of knowledge
- current research
- research gaps
- previously established research priorities.

Ask stakeholders what they think are research options:

- in questionnaires or interviews ahead of the meetings where consensus on a list of priorities is established
- at the start of those meetings
- or a combination of these two.

It can be elegant to include larger groups of stakeholders in the early stages of the priority setting exercise to ask them about research options. For example, in a research priority setting exercise for a health condition, the organizing team might send out surveys before any meeting is organized to ask patients, healthcare practitioners and researchers to suggest research options. The options that arise from these surveys might be organized by the team according to different levels of granularity. Interviews could be held to deepen descriptions of stakeholders' views on the research options and a literature review could provide a stronger evidence base for them. The list of research options that follows from this might then be reviewed, refined and finalized during a meeting of a smaller group of stakeholders.

Step 2b Deciding on use of criteria

The team leading the prioritization exercise might decide to define and use criteria to prioritize each research option. These criteria would help all those involved in the exercise to differentiate and rank topics. The use of criteria is generally considered to be good practice in priority setting exercises. The organizing team might predefine the criteria based on literature review or involve stakeholders in setting these criteria. In the latter case, it is advisable to ask stakeholders what factors informed their decisions. Examples of criteria include whether alternative interventions are available, budget impact, health impact, amount of controversy around the intervention or the topic area, disease burden, economic impact, ethical implications, legal implications, psychosocial implications, underlying evidence, expected level of interest and variation in rates of use of the intervention (15–16). If multiple criteria are used to inform the prioritization decisions, a performance matrix might be a useful approach to frame and guide the process, and to rank the priorities and guide discussions in a consensus meeting (17).

Step 2c Prioritizing the research options

There are a variety of methods for asking individuals and organizations (stakeholders) to 'judge' each research option and to achieve a list of research *priorities*. These include surveys (such as of those affected by a disaster, practitioners, policy makers or managers), consensus methods (such as Delphi), face-to-face meetings and participatory workshops to discuss and agree on the priorities (18–19). Often, a combination of these

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methods is used. As part of the development of the process, the prioritization team need to decide which individuals should have their knowledge and values recorded and incorporated in the process and whose knowledge and values need to be used to define key decisions in the process (such as ranking and prioritization). The latter might be used to shape the group that will be involved in choosing the final set of priorities.

It is important to be aware of the key issues that can affect the dynamics of stakeholder interactions during the research prioritization process. Developing good relationships with individuals can help to understand their interests, values and preferences as well as power relations between the different groups and how this can affect stakeholder engagement. If a consensus meeting will be held, it is recommended to have an independent and experienced facilitator to manage the meeting who is aware of these issues (1, 20-21). It may also be important to have a mechanism in place to identify and report financial and non-financial conflicts of interest of stakeholders.

The organizers of a priority setting exercise need to consider that attending meetings may be difficult financially for some stakeholders and that this might affect their presence and attendance. Some stakeholders might be less comfortable with disagreeing with some of the other participants in meetings for fear this might affect their future working relation or access to funding.

2.7.5 Step 3: After the priority setting exercise

After the priority setting exercise, six things are important:

Step 3a Conduct the prioritized research projects: because priority setting exercises are intended to ensure that the right research is conducted, it is important to consider how the prioritized research projects may be best initiated.

Step 3b Implement the findings of research projects: research can sometimes be “blue-skies research”, but more often research is done to inform health practice or policies directly. A plan should be made as to how the findings of the prioritized research projects may be translated into practice, policy or both.

Step 3c Evaluate the impact of research findings: a plan is also needed as to how the research that will be done as a result of the priority setting exercise might be evaluated.

Step 3d Report and publish the priority setting exercise: it is important to both disseminate the results of a prioritization exercise and ensure that the relevant researchers and funders have access to the results and a clear report of how the exercise was done. There is a reporting guideline (Chapter 6.6), REPRISE, to help with this (22).

Step 3e Evaluate the process and outcome of the exercise: the evidence base for the quality of priority setting exercises will be improved if more exercises are evaluated systematically. For example, papers by Viergever and colleagues (4) and Nasser and colleagues (7) provide frameworks that can inform the building and implementation of an evaluation framework. This includes looking back at the process and

outcomes of the priority setting exercises and asking: What went well? What could have gone better? What should the organizers of the next priority setting exercise on this topic do differently? What lessons were learned? This information should be included in the report or publication.

Step 3f Feed the results back to revise future exercises:

priority setting is an iterative process that might keep running and changing, based on what research gaps remain and need to be addressed. Therefore, the prioritization exercise may need to provide opportunities for periodic review of the priorities that were agreed, and for appeal and feedback on these. Such reviews also provide opportunities for stakeholders to challenge the results of a prioritization exercise, or provide feedback to the group on the priority decisions they made, which will improve the acceptability and, as a result, legitimacy of the exercise. Thus, there should be a plan as to when the priority setting exercise will be repeated and how the information gleaned in Step 3 will be used to inform future exercises.

Lastly, a note on funding: prioritization exercises may be used to inform decisions about the allocation of funding that might otherwise be used on other aspects of Health EDRM. This makes it especially important to demonstrate accountability towards the stakeholders and evaluate the success of the exercise.

2.7.6 Conclusions

Several different approaches have been used to set priorities for research to adapt to the variety of contextual issues for which these priorities are needed. The approach to take depends on the objective of the prioritization exercise, underlying principles, ethical frameworks, and social, political and contextual issues. There are also different ways to categorize the purpose of the prioritization exercise. It might be categorized as identifying current uncertainties or be more future oriented, seeking to address issues that will arise in the future.

Some have defined steps in research prioritization as predominantly technical, including the interpretive and consultative methods used to identify data and encourage stakeholder's involvement. However, research prioritization exercises do not always clearly belong to one category. For example, those that emphasize involving stakeholders and using qualitative methods to gather information from them, will probably still use quantitative data to inform the decision-making process, while those that are predominately data driven (for example that emphasize the value of information analysis) will require people to make value-driven assumptions when interpreting these data to inform their decision making (1, 23).

Across health research generally, it is important to identify the topics that are the highest priorities for new studies. This is if anything even more important in Health EDRM, where funding and resources put into research might otherwise have been used directly for risk prevention, preparedness, response, and recovery to strengthen resilience. In setting the priorities for new research, it is important to follow a process that is equitable, involves all the key stakeholders and uses an evidence-based approach to identify the areas of greatest need that are most amenable to research. This chapter has outlined some of the key steps for doing this.

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2.7.7 Key messages

- o **Prioritization of research in Health EDRM will help ensure that the research that is most needed gets conducted and make efficient use of resources that might otherwise be used for implementing interventions.**
- o **Those undertaking prioritization exercises should use an evidence-based approach and ensure that key stakeholders are involved. Several methodologies are available to help do this.**
- o **Reports of prioritization exercises should be clear about the outcomes, the methods used in the exercise, the underlying assumptions made before or during the process to support the decision making process (such as political, social and economic views underlying support or funding decisions), and how the various sources of information were used, in order to allow those who might act on the priorities to judge the quality and relevance of the exercise that led to them.**

2.7.8 Further reading

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