

# Health research priorities when becoming a necessity to support the national research system

**Maha Alosaimi<sup>1\*</sup>, Wafaa Saleh<sup>1</sup>, Athari Alotaibi<sup>2</sup>, Nawal Alzahib<sup>3</sup>, & Malak ALOsaimi<sup>4</sup>**

1. Deputyship of Planning and Transformation, Ministry of Health. Riyadh, Kingdom of Saudi Arabia
2. Deputyship of Public Health, Ministry of Health, Riyadh, KSA.
3. Deputyship of Therapeutic Services, Ministry of Health, Riyadh, KSA.
4. College of Dentistry, Riyadh Elm University, Riyadh, KSA.

## Introduction

### Reinforcement of the National Health Research System

The world is currently witnessing major developments in the field of scientific research, as health has emerged as a top priority, especially after the challenge the entire world faced during the Corona pandemic (Covid-19).

The current research landscape has changed, with a growing awareness of the importance of scientific research and the realization that it is no longer just an academic luxury. Rather, it is in fact an essential element in the decision-making process. This was evident when the entire world stood still waiting for the results of research that they were trying to solve or alleviate the burden of the pandemic. The crucial question is how to sustain this progress and development in the field of research.

Strengthening the research infrastructure is a key step in developing and maintaining the progress of the research system. Among the building blocks that facilitate this are creating a stimulating research environment and supporting regulatory frameworks for this system, such as setting research priorities in the field of health. By setting priorities, we can direct efforts towards pressing health challenges, and facilitate the identification of specific needs and gaps within the healthcare system through targeted research aimed at finding effective solutions.

### What would be the appropriate way to determine research priorities?

In general, the current situation shows us the importance of properly identifying research priorities more than ever, considering the appropriate and correct way to determine them. Scholars agree that there is no golden method, path or one approach to determining research priorities. It should be based on establishing priorities, to be applicable and appropriate to the national context and characterized by credibility and transparency.

The World Health Organization (WHO) has published a systematic method for undertaking research priority setting (PS) priority setting review of research (2002-2018) containing 115 research documents describing more than 2,000 priorities. It revealed a high degree of variability in the methods used to establish these priorities, with limited use of clear methodology, lack of a normative approach to prioritization, and scarcity of any evaluation to assess the impact of research prioritization. (1)

The research priority setting exercise will influence stakeholders in the research system to support and carry out research that will have a positive impact on public health. Each priority-setting exercise differs, requiring context-specific in determining research priorities, and not all steps will be appropriate in a particular context. Decisions must be made whether they focus on a single disease or on a national approach. However, The World Health Organization recommends that the process of setting research priorities should comply with the following requirements: identification of the objective, context, methods, defining priorities, implementation, monitoring, evaluation and setting a dissemination plan. In order for priorities to be published and publicized in a transparent manner, WHO emphasized the use of past experiences to identify priorities for improvement of future work while following the guidelines for codes of conduct and good research practices. (1). The Ministry of Health, Kingdom of Saudi Arabia has registered the research prioritization initiative as part of the national health system planning cycle. To find the capacity to conduct, use and fund research. The Ministry has used an appropriate approach to its own national context. The most common methods used to determine research priorities

**There are many methods used to make research health priorities, and perhaps one of the most widely used are:**

**Delphi Approach**

Many studies in the literature used the Delphi technique to gather information due to flexibility of this method. The Delphi technique is useful for topics that can be influenced by subjective judgments on a collective basis. It does not require face-to-face meetings and therefore, is relatively free of social pressure, dominance of individuals or groups, and in addition is inexpensive. (2)

**Burden of Disease Approach**

The burden of disease (BoD) approach relates research to BoD and determinants, cost effectiveness, and financial flows. However, it requires sophisticated health information systems and high levels of statistical expertise. (3) BoD data has drawbacks, in uncertainty of estimating the real situation; it is based on historical data, which is heterogeneous and can be inconsistent and non-comprehensive. Furthermore, we cannot see the whole picture about health status (temporal trends in mortality, incidence and prevalence). The issues with BoD measures were mainly related to the sources of data, estimation uncertainty, lags in data availability, variation in coding practices and limitations of existing analytical tools. (4)

**Comparative analysis of common PS Approaches**

- **Essential National Health Research (ENHR):**

Focuses on; health research for national-level, involvement of a broad range of stakeholders, significant engagement with experts, detailed listing of priority options. Defines who sets priorities, how to get participants, information and criteria for setting priorities, strategies for implementation and indicators for evaluation.

- **The Combined Approach Matrix (CAM):**

Focuses on the structured collection of information according to important criteria. The process for deciding on priorities is consensus-based. Used for both global and national exercises. Identifies gaps in knowledge and future challenges. Systematic listing, classification, organization and presentation of all available information rather than personal knowledge and judgement.

- **Child Health and Nutrition Research Initiative (CHNRI):**

Individual questions are scored against predefined criteria. Technical experts independently score each research option. Systematic listing of research questions. Independent ranking of research ideas. Provides a comprehensive framework for scope, context, research domain, criteria and scoring options.

- **The James Lind Alliance (JLA):**

The approach describes how to combine the patient experience and the clinician and /or carer experience with systematic reviews to identify treatment uncertainties as topics for research. It adapts the Delphi technique and use workshops to triage preliminary priorities to identify a Top 10 list of priorities. (1)

**The Current PS Methodology, Deliverables and Reporting Methodology E-Delphi technique**

The optimal approach for PS varies according to the exercise. (5) Therefore, the PS team at ministry of health decided to consider the e-Delphi technique for the current research PS cycle. As involving stakeholders in PS can help to: 1) ensure that funding decisions and research meet critical evidence gaps to inform decision making; 2) facilitate shared responsibility and accountability in implementing the research agenda; 3) improve the relevance and legitimacy of research; and 4) ultimately achieve better health outcomes. (6) The MoH study provides detailed description of planning, implementation, evaluation and reporting of a systematic method for setting comprehensive priorities in health research based on KSA context. The e-Delphi technique as a systematic interactive forecasting method covered health research topics, topics related to Vision 2030, as well as collaborative research including multidimensional COVID 19 pandemic.

Moreover, PS agendas were further classified into research themes, areas, fields and topics. As ranking priorities can be performed per research option issues / questions. The former could be performed by a broad stakeholder group while the latter by technical experts. (7, 8) We applied the combined consensus and metrics-based approach. Consensus tends to improve the acceptability of the exercise, while individual ranking prevents dominance of a few participants. (9)

**Criteria for scoring and ranking methods**

Criteria used for scoring the selected topics were properly selected and included; appropriateness, relevance, feasibility, urgency, collaboration, and impact on research outcome. Research domains were prioritized by ranking the weighted mean aggregate score and all topics of the top five ranked domains, along with the answers

of those in leadership positions were pooled together, validated, verified, summarized, refined and then classified into themes.

### **Broad and balanced representation of stakeholders**

Ideally, PS should involve a broad representation of stakeholders, utilize objective and clearly defined criteria for generating priorities. (10) That is why MoH study included; a full range of health specialties and subspecialties (46.5% physicians, 39% health specialists, 10% pharmacists and 3.6% dentists). It achieved balanced regional participation and covered a wide spectrum of qualification and professional levels. In total, there were 2252 participants and 98% belonged to MoH. A representative mix of health facilities were included; 75 hospitals and specialized health centers, 24 primary health care centers, 2 healthcare clusters, in addition to five medical cities. Community involvement was represented by 26 health organizations. Approximately half of the stakeholders contributed to scientific research, while 24% had previous publications, and only 6% had a direct influence on health policymaking.

### **Conclusion**

It is clear that the applied Delphi approach is in line with the best practices of PS methods, and when we involve a big sample size we can come up with a general comprehensive result. All of this cannot be possible if we do not consider how to generalize our sample or involve stakeholders who can add more input to the study outcome.

### **Our experience -Context, scope and governance framework**

In fact, the MoH PS study harmonizes with KSA, MoH vision 2030 including; transformational reform & research development program. As PS is an essential process to align health research activities, resources and capacity across the Kingdom to meet MoH priorities and needs, chiefly health system research and can provide winning points that gaining. It also goes in line with the global trend that enhanced “Health in all Policies” and “Health for all” strategies. It also provided a realistic inclusive model & paved the way for the national survey concept, in particular for the next PS cycle. Consequently, it avoided wide variation of PS agendas due to fragmented and poorly coordinated status of the national health research system. In addition, we consider prioritize the problem of collecting and sharing information at the level of the individual, the leader, the community, and the organization.

As there is no single, methodology agreed upon for the application of the Delphi technique, so it allowed flexibility in development of questions and criteria that are appropriate to KSA context and scope. Therefore, MoH PS study applied the e-Delphi technique via addressing BoD approach criteria by its dimensions. So, it considered both historical and foresight concepts. It endorsed both metric- and consensus-based approach. It adopted inclusiveness, equity and transparency via the comprehensive representative sample as community-based participatory research. Furthermore, adequate description of the stakeholders and the methodology can strengthen legitimacy, credibility and maximize the impact of the priority setting process. Moreover, involvement of policymakers, researchers and funding organizations, can increase the opportunity of translation into actual research, support redesigning the research landscape and ensure uptake of results and integration.

Along with classification of priorities into themes & areas and adapting to global priorities research help to facilitate translation into actual research. The current PS agendas provided integrated themes for health research. In addition, it included “collaborative research” as complex health problems need to be addressed in a comprehensive way.

### **Limitation:**

Investment in health research may be redirected to areas of low priority or fail to address crucial demands of relevant stakeholders due to the obvious mismatch between the research interests of patients and researchers. unavailability of an updated health information system which decrease the chances of using the burden of diseases as methodology

Finally, the study follows the updated relevant PS cycle reporting guidelines, which are useful for assessing whether the PS process is achieving key constructs relevant to the planning process, deciding on priorities and post-PS work. Thus, it catalyzed capability to implement and evaluate research projects' outcomes.

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