

Commentary

The complex challenge of setting priorities in health research investments

In this issue Dr Abdul Ghaffar from Global Forum for Health Research in Geneva, Switzerland, presents the application of “Combined Approach Matrix (CAM)” in addressing research priorities across several themes and contexts¹. CAM is a helpful tool for setting research priorities which was developed by the Global Forum for Health Research in 1999. Since its development, the CAM has been successfully implemented for setting research priorities for diseases and programmes at global and national levels. It has found its application in several areas, and this paper presents three examples of its applications within: (i) the Programme for Research and Training in Tropical Diseases (TDR), which is being executed by the World Health Organization; (ii) diarrhoeal disease research at the national level in India; and (iii) globally, for schizophrenia as a specific disease and also a research challenge¹.

The CAM is a tool which respects the complexity of setting priorities in health research investments. It recognizes that this is a multi-dimensional process heavily determined by the context in which priority setting takes place, and by the criteria used to set research priorities. It requires trans-disciplinary approach, because there are many dimensions (lenses) that can be applied in setting health research priorities. The results obtained through use of different criteria will necessarily conflict each other. Some of the obvious dimensions that are relevant mainly to the researchers themselves are novelty and attractiveness of the research and its results, potential for publication in high impact journals, potential to attract further funding, but also effectiveness of the resulting interventions, maximum potential of research to impact disease burden addressed through health research and many others². Investors in health research will be more concerned about answerability of the research

questions in an ethical way, feasibility and value for money that they may be getting for their investment, potential for forming partnerships (academic or public-private) between researchers and industry to increase the competitiveness of generated research results and their translation and application, *etc*³. Ministries and international organizations may be more interested in criteria such as deliverability, affordability and sustainability of the results, local and national research capacities to carry out the proposed research ideas and also whether research question is linked in any way to an ongoing public debate or societal issue. Investors in health research from the industry may be primarily motivated by generating patents and in potential of the research to get translated into commercial products as desirable endpoints⁴. Finally, the society as a whole may be mostly interested in safety and equity lenses and whether beneficiaries of supported health research would be found mainly among the underprivileged or would they be widening the gaps that are already present in the society⁵.

Motivation of investors in health research and differences in their values and expectations from the investments they make is complex. Because of this complexity, it is important to be very transparent at each stage. The transparency must begin with those who invest, and the perceived returns on their investment should be clearly stated at the beginning of the process. The returns may be defined as reduction in disease burden among the taxpaying population, if the investor is the government that uses national budget to invest in health research; however, investors from the industry may see patentable products as their returns and not-for-profit organizations may seek increased media attention, international prizes and increased overall level of funding for their specific priorities as expected returns. The context within which the

process of research investment prioritization takes place is thus primarily defined by the expected returns of those who invest and their investment styles which may be balanced and responsible (suggested for those investing public funds), risk-averting (which may be preferred among some industrial partners) or risk-seeking and biased towards high risk – high profit avenues of health research (which may be typical for some industries and not-for-profit organizations)³.

Apart from investors' perceived returns and their investment styles, the defining elements of the context in which prioritization of health research takes place are also population of interest, addressed disease burden of interest (or product, such as vaccine or a drug) and time frame in which those returns are expected. In terms of population of interest, research priorities can be set at global, regional, national level or in a specific sub-population (*e.g.*, children or persons exposed to some environmental health risk)⁶. CAM can assist in defining research priorities at all those levels. Addressed disease burden of interest can be defined in very broad but also very narrow sense, and it may range from overall missed development potential and reduced quality of life to the very specific condition such as autism or gout. Finally, perhaps the most important element that defines the context in which the process takes place is the time frame within which the returns on the investments are expected. Priorities can change dramatically if there is an overall context of great urgency or whether decisions are made between supporting several very long-term, strategic investments³.

In addition to being very specific about the context in which research prioritization takes place - and description of the context is a task where CAM performs well - it is also important to be entirely transparent about the criteria which are being used to discriminate between different research options as possible investment priorities. Those criteria may be very different for different investors and this was discussed earlier: they can range from novelty, answerability, effectiveness and potential for publication in high-impact journals to equity, local research capacity, affordability, sustainability, and many others. This is where CAM falls a bit short - while being an excellent tool for organizing all the available information that can help understanding the context in which research prioritization takes place, it does little to provide an algorithm based on transparent set of criteria which would enable systematic listing

of many competing research options or provide the way to discriminate between them based on defined criteria. But this does not diminish its utility in most situations as an evidence base which can be used before Delphi-type consultation processes among the experts affiliated to a panel when specific prioritization tasks are launched.

Clearly, there are many dimensions to be addressed in the complex process of research priority setting. CAM does extremely well in addressing two of those dimensions, which it finds the most important: "public health" dimension (includes assessment of disease burden, its determinants, current level of knowledge, predicted cost and effectiveness of new interventions and resource flows) and "institutional" dimension (analysis of the role of individuals and communities, health ministry and health institutions, other stakeholder organizations and macroeconomic policies). There is a stage of information gathering, followed by synthesis and interpretation of the process. CAM enables deeper understanding of important criteria such as potential for disease burden reduction, deliverability, affordability and sustainability of the research, effectiveness of the interventions or the overall impact of research on equity. However, CAM is limited to its two main dimensions (albeit both of them very important), which does not make it flexible and applicable in all contexts. It is difficult to see how additional dimensions could be added into the process – *e.g.*, uncertainty over the outcome which is inherent to all health research and captured in the criterion of answerability in an ethical way; or taking into account investment styles and exposing risks and potential benefits associated with each research option; or likelihood that the research would obtain funding support from the donors.

Regardless of its limitations, CAM is a very useful and successful tool developed by the Global Forum for Health Research, as demonstrated by Ghaffar in this paper¹. There are a number of other methodologies used for setting research priorities, all of which can also be useful in different contexts (*e.g.*, CHOICE, Delphi, "value of information")⁴. Recently, Child Health and Nutrition Research Initiative (CHNRI), an initiative that originated from within the Global Forum for Health Research, used CAM as a starting point and added ways for further criteria to be considered and also algorithms for systematic listing and evaluation of many competing research options using all fundamental instruments

of health research – the “CHNRI methodology” for setting priorities in health research investments³⁻⁶. The CHNRI methodology is quickly gaining popularity and it has recently been successfully applied in the variety of contexts⁷⁻¹¹, but in all phases of its development it learned valuable lessons from the experiences of CAM implementation.

Finally, communicating the identified research priorities to investors and getting them interested in the process is at least as important and challenging as the process of setting research priorities in the first place. No matter which methodology is used for setting health research priorities, the results of the process in any form of publication will mean very little until successful strategies of communicating the outcomes to the investors are identified. There are several possible ways of validating each of the existing priority setting methodologies, but they will all eventually be judged by the popularity of their use among the researchers and investors and also by their success in prompting real quantitative and qualitative changes in ongoing investment policies.

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