



# Planning, Monitoring and Evaluation Framework for Research Capacity Strengthening

*Revision 2016*

**ESSENCE** Good practice document series



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### About ESSENCE and this good practice document

ESSENCE on Health Research is an initiative of funding agencies to improve the coordination and harmonization of research capacity investments. ESSENCE members embrace the principles of donor harmonization and country alignment expressed in the 2005 Paris Declaration on Aid Effectiveness and in the 2008 Accra Agenda for Action. According to these principles, donors align and harmonize their activities and procedures with the priorities of the countries in which they work.

To achieve this goal, ESSENCE members agreed to jointly develop and produce good practice documents that would incorporate current knowledge and best practices on health research and development issues. The first good practice document, called 'Planning, monitoring and evaluation framework for capacity strengthening in health research', was published in 2011. The second good practice document, called 'Five keys to improving research costing in low- and middle-income countries', was published in 2012. The third good practice document, called "Seven principles for strengthening research capacity in low- and middle-income countries: simple ideas in a complex world", was published in 2014. This document is the revision of the 2011 document and incorporates the up-to-date literature review and feedback from the users of the original version. ESSENCE funders jointly contributed their experiences of evaluation of research capacity strengthening. Although the ESSENCE group is currently health focused, we hope that this document has wider reach and can be used across all research fields.

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Planning, monitoring and evaluation framework for research capacity strengthening

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## Introduction

The Planning, Monitoring and Evaluation (PM&E) Framework outlined here has been developed to improve harmonization among funders of research capacity strengthening (RCS). Its use should make it easier for recipients of funding to fulfil the PM&E obligations of different funders and facilitate synergy, division of labour and sharing of knowledge among funders.

For the purposes of this Framework, research capacity is the capacity to do, manage, share and apply research. Research capacity may be strengthened by: (a) enhancing the capacity of individuals and organizations to carry out, manage, share and apply research; and (b) promoting national and sub-national research systems that support research and the linkage between research, policy and practice.

The development of a common framework for a diverse group of funders who support a variety of initiatives in a number of different countries and work with a range of partners is a challenge. Funders all have different M&E systems, different approaches to capacity strengthening and different ways of setting up programmes. This Framework has therefore been developed through a process of consultation, firstly between various ESSENCE members and secondly with a broader group of stakeholders, including low- and middle-income country (LMIC) recipients of funding for health research. It is hoped that the Framework is flexible enough to be adapted to different contexts.

Consultations about evaluation of RCS and exploration of tensions and challenges continued among ESSENCE stakeholders. The ESSENCE Framework has been published and in use for four years. A group of researchers affiliated with ESSENCE analysed the experience of those who have used it, and compared it against other existing RCS PM&E frameworks and initiatives. As part of this update, the National Institutes of Health Fogarty International Centre conducted a literature review of articles focused on evaluation of RCS. All these sources offered important learnings and recommendations for updating and complementing

the existing framework. Synthesis of these learnings has informed the 2016 update of the Framework.

The Framework consists of two parts:

- I** Shared principles of capacity strengthening
- II** PM&E matrix, outlining key indicators

### I Shared principles of capacity strengthening

The first part of the Framework focuses on the process of capacity strengthening and consists of a set of guiding principles on how to engage in capacity strengthening partnerships.<sup>1</sup>

Capacity strengthening (also known as capacity building or capacity development) holds a prominent position in the international development agenda. Although the concept of capacity strengthening is open to interpretation, there has been growing acceptance of a broader and more comprehensive definition of capacity strengthening, one that goes beyond a value-neutral transfer of skills.<sup>2</sup> According to ESSENCE, “the definition of research capacity strengthening includes any effort to increase the ability of individuals and institutions to undertake high-quality research and to engage with the wider community of stakeholders.”

<sup>1</sup> Partnership is a relationship of one or more countries, regions, organizations, institutions, companies or foundations around an activity or set of activities in which there are well defined common objectives and shared benefits, where each partner makes continuing contributions in one or more strategic areas (modified from the WHO/TDR Performance Assessment Framework 2010).

<sup>2</sup> The OECD/DAC defines capacity as “the ability of people, organizations and society as a whole to manage their affairs successfully” and capacity strengthening as “a process whereby people, organizations and society as a whole unleash, strengthen, create, adapt and maintain capacity over time”.

Capacity strengthening is now viewed as more than just providing training or distributing manuals, it is a complex process that involves shifts in power, provokes changes in systems and is influenced by factors such as cultural values. These factors must all be considered when designing capacity strengthening interventions. The success of a capacity strengthening intervention depends on how it is set up from the outset and how the different components of capacity strengthening partnerships relate to each other.

The principles outlined in the first part of the Framework should be the starting point for setting up any capacity strengthening partnership.

Throughout the implementation, partners of a capacity strengthening intervention should periodically assess if the principles are still being adhered to.

## II PM&E matrix with key indicators

This part of the Framework focuses on the desired results of research capacity strengthening. These results and their respective indicators of achievement (agreed on during various stakeholder consultations) are gathered in a matrix that follows the logical framework approach.

Various components of health RCS are examined in accordance with relevant publications on the subject. Three key components (individual, organizational and national/sub-national research systems) are linked to each other. Even if a capacity strengthening intervention is not aimed at all components, the linkage between the components should be understood. An intervention focused on one component will have effects on the other components; the relationship between the components can be used to design more sustainable capacity strengthening interventions. To be successful, capacity strengthening interventions must respond to the relationship between the components.

The matrix provided is for research capacity strengthening, therefore the focus for the first two components (individual and organizational) is on scientists and scientific research organizations. The third component deals with the “bigger system” that the first two components are embedded in, so the focus is on governmental and nongovernmental organizations (NGOs). The dissemination and

application of research results are incorporated in each component. Although scientific research (and the individuals and organizations linked to it) is the starting point, the understanding of research capacity underlying this Framework goes beyond science, particularly in relation to the uptake of research results.

The following aspects are crucial to the use of the matrix:

### *Adapting to partners*

Clearly formulated goals and indicators are useful in programme planning, monitoring and evaluation. However, the present matrix is meant to be flexible so that it can be adapted to specific contexts - not all outcomes, outputs, indicators or components have to be used for every capacity strengthening intervention. Also, outcomes, outputs and indicators are not always formulated to the last detail (e.g. regarding the specific content of trainings). Such detail would need to be part of specific partnership agreements.

### *Consistency with priorities of individual organizations/synergy with others*

The matrix should be used in a flexible way to take into account organizational priorities and synergies. For example, different funders may have different priorities in relation to the components of research capacity strengthening. Likewise, not every funder will want to invest in all of the activities proposed for one component. In such cases, only parts of the matrix need to be used. Funders who work with the same LMIC partner should try to dovetail their interventions and, in so doing, complete the matrix together.

### *Capacity strengthening of funders*

The matrix is planned to be revised periodically. Funders are invited to adopt a learning attitude towards capacity strengthening and to contribute to the continuous improvement of the matrix, based on their own experiences with capacity strengthening initiatives.

## PART I: Shared principles of capacity strengthening

### Participation and alignment

The design of capacity strengthening interventions should be a common effort of funders and LMIC partners. Joint planning, implementation and knowledge sharing by stakeholders are among the key principles of RCS PM&E. Stakeholder engagement in the design phase, and throughout the implementation and evaluation phase, contributes to increased local ownership and thus sustainability of capacity strengthening. Local ownership is critical to any capacity strengthening process.

### Understanding the context

Capacity strengthening interventions should start with a proper analysis of the local context (including political, social and cultural norms and practices). Only a deep consideration of this context will help with understanding underlying barriers to, and detect specific opportunities for, capacity strengthening efforts. Such context analysis can also help develop the base-line level of activities against which changes are measured.

### Building on existing local strengths

Local expertise and local processes, initiatives and institutions should be valued, not bypassed. This means that funders should also support local capacity strengthening. Local ownership and control are critical to any capacity strengthening process. Funders should strengthen local ownership of evaluation by supporting guidance, tools and training in evaluation and enabling stakeholders to conduct independent evaluations. Additional funded interventions should be aligned with national/institutional strategies for capacity strengthening.

### Long-term commitment

Capacity strengthening is a long-term commitment – it takes time for inputs to bring about changes in behaviour and performance. Therefore, the time-frame for capacity strengthening interventions should be realistic. Emphasis of RCS PM&E efforts should be on long-term gain, i.e. measuring impact within research, as well as in policy, programmes and practices, that result from changes in research. Learning and achieving capacity among stakeholders for impact measurement should be embedded in the RCS efforts.

### Interlinked capacity components

To be successful, capacity strengthening interventions have to take into consideration the individual, organizational and systemic components of health RCS. Even if a particular capacity strengthening intervention is not aimed at all components, the linkage between the components should be understood. Interventions regarding one component will have effects on the other components, and the relationship between the components can be used to design more sustainable capacity strengthening interventions.

### Continuous learning

Blueprints for capacity strengthening do not exist because individuals, organizations and systems are all unique. Also, the process of capacity strengthening is too complex to be predetermined. Therefore, analysing and reflecting on specific and changing circumstances throughout the process is crucial. PM&E systems that accompany the process of capacity strengthening should enhance continuous learning - they should include an accurate analysis of the situation at the start of the intervention and provide for periods of “reflection on action”.



**Harmonization**

Funders, governments and other organizations that support the same LMIC partner in capacity strengthening should harmonize their efforts. The LMIC partner is in the best position to coordinate input from the various sources and to ensure complementarity. Funders should also strive for this complementarity in capacity strengthening efforts and they should further support the LMIC partner in the harmonization of procedures.

**Ensuring equity**

In order to ensure equity in access to RCS, and benefiting from results of RCS, data collection and evaluation should not only focus on general “north” and “south” representation, but include considerations such as gender, nationality, country income level, discipline and other socio-economic indicators, within and among LMICs.

The ESSENCE document Seven Principles for Strengthening Research Capacity in Low and Middle Income Countries provides guidance, or “simple ideas in a complex world”, on how to apply these principles in practice when designing, conducting and evaluating RCS.



## PART II: PM&E Framework – definitions of key concepts

**Individual component:** Refers to capabilities and requirements that, if acquired/fulfilled, enable an individual or members of a research team to undertake good quality research. It includes factors relating to the research capacity of the individual researcher, including motivation, additional training, access to information, etc.

**Organizational/institutional component:** Refers to the capacity of scientific research organizations (which can range from research groups to research institutions) to undertake good quality research. It includes factors such as infrastructure, adequate staff (including financial and management staff), curricula, acquisition of funds, external contacts, etc.

**Environmental component includes national/sub-national, research networks and global/international sub-components.** This relates to environmental factors including capacity and commitment at the financing and policy level to promote research capacity, to set standards, or to link policy, research and practice at national and international levels.

The capacity components listed above are inter-related. Most funders promote and advocate for capacity strengthening efforts on more than one level, although not all funders may get involved at each level.

**Theory of change.** There is no single definition of the theory of change. One definition is: “The description of a sequence of events that is expected to lead to a particular desired outcome.” Another simple definition states that the theory of change is a comprehensive description of how and why a desired change is expected to happen in a particular context.

**Outcome:** Changes in performance or behaviour within defined period of time. Outcomes are an expected consequence of the outputs, but are not linked directly to the intervention. A development programme/project should eventually contribute to such changes, but cannot be held directly or solely responsible for them.

**Output:** Direct results of programme/project activities. The programme/project can control the outputs and is directly responsible for achieving them. Outcomes and outputs must be SMART – Specific, Measurable, Achievable, Relevant and Time-bound. The choice of outcomes and outputs in the present Framework was also determined by this requirement.

**Indicators:** Variables for measuring or judging if change has happened. Indicators should specify quantity and/or quality using definitions such as “number of”, “extent”, or “quality”. It is important that these indicators and their data sources are defined at the start of the programme to enable systematic and consistent collection of information throughout the intervention. Where possible and appropriate, all indicators should be collected in such a manner that they are easily stratified on the basis of gender (female and male).

**Means of verification:** Data sources and tools that can be used to determine if desired changes have taken place. If “annual reports” serve as means of verification, they have to contain information on the defined indicators.

**Activities:** Funders carry out two main types of activity – “finance” and “support”. “Support” refers to any kind of support that goes beyond financing, including advocacy for capacity strengthening, evaluation of programs etc.

# Practical considerations when conducting evaluation of research capacity strengthening

## Stakeholder engagement

Some funders believe that external evaluations give more accountability and provide better value for money. However, when recipients participate in the evaluation design and its conduct and knowledge dissemination, the sense of ownership and commitment to lasting change increases. Recipients provide internal knowledge of the project, the context and other stakeholders, which externals may not have or would have to spend a substantial amount of time exploring. Recipients are also in a better position to use and implement evaluation findings throughout the evaluation process, and not only at the end of it.

Therefore, funders and recipients should engage as early as possible in planning of the evaluation phase and jointly agree on the purpose and process of evaluation early on.

More interaction among stakeholders, including service users, community members, health practitioners and policy-makers, not only at the beginning but throughout the evaluation process, particularly in defining expected results and developing knowledge translation strategies, can help with setting realistic goals, meeting local priorities and addressing resource issues.

Strengthening evaluation skills of recipients and setting up data collection systems while planning and conducting an evaluation also contribute to capacity strengthening and sustainability. Funders should therefore consider funding evaluation capacity strengthening activities and developing data collection systems (including stakeholder engagement meetings) as an embedded part of RCS projects.

## Theory of change

One of the frequently mentioned challenges in existing reviewed frameworks is the lack of an integrated theory of change. Theory of change should model the impact pathways, i.e. provide rationale on how implemented activities and inputs, and under which assumptions and constraints, are expected to strengthen the research capacity. It should also explain the connection between expected outputs, outcomes and impact, and provide a rationale as to why it is believed that certain indicators are measuring outputs and outcomes contributing to expected impact.

Theory of change should be evidence-based, i.e. the pathway to expected change should be, as much as possible, based on methods, lessons learnt and outcomes of similar projects already carried out, which can be found through literature review and consultations. Theory of change could be developed by internal or external evaluators and reviewed and agreed upon by all stakeholders involved. It should clarify what the evaluation is supposed to do and how.

Authors acknowledge that RCS projects often do not receive sufficient funding to include comprehensive development of the theory of change into the evaluation process. The recommendation to funders is therefore to fund and require development of theory of change for RCS projects as a part of the development of comprehensive RCS evaluation systems.

### **Comprehensive, prospective systems for research capacity evaluation**

Based on the theory of change, a comprehensive and prospective evaluation framework and system for RCS should be developed. Comprehensive means that provisions for monitoring and data collection of all indicators and measures outlined in the theory of change and evaluation framework should be set.

Prospective means that the system should be set up at the beginning of the project and that data collection for evaluation should start as soon as the RCS activities begin. In retrospective evaluations it is difficult, sometimes impossible, to ensure the applicability and feasibility of chosen indicators and evaluation rigour. Retrospective evaluations are rarely able to draw on baseline data (as the baseline was not prospectively defined). Even comparison with historical data is challenging, if the evaluation data sources or collection methods are not comparable with the original ones.

In practice, due to constraints including lack of capacity and financial resources, it is not always feasible to set up a system that will collect all the desired data. Indicators should be prioritized through stakeholder consultation. Continuous efforts to further expand the evaluation system during the project should be conducted.

### **Indicators selection**

Depending on the theory of change and the purpose of evaluation, each RCS project should develop its own, project-specific indicators. As a certain level of commonality exists among RCS projects, particularly in expected results, there are common indicators (and some of them are proposed in the matrix of this framework) that may be applicable to different projects.

Development and utilization of a common set of indicators (developed along the lines of OECD/DAC criteria for evaluating development effectiveness, 1991) may be of special interest to funders for comparison and aggregation of results among different projects.

Different stakeholders may be interested in different indicators depending on their role in assessing RCS outcomes and impact. Therefore, joint planning and agreement on which indicators to use in the evaluation process should occur early on in the evaluation planning process.

When selecting common indicators, and/or developing project-specific ones, certain standards should be observed. Indicators should be:

- Based on the theory of change;
- Specific and measure baseline;
- Disaggregated according to equity categories (e.g. gender, nationality, income level, discipline); and
- Iterative (adapted and refined as the research capacity increases and the outcomes become more complex).

Targets for expected results should be set and benchmarks established with which to compare results.

### **Impact measurement**

One of the frequently identified tensions in the RCS evaluation reports is whether evaluation efforts should focus on understanding processes or measuring impact. Having early and regular process evaluations is important, particularly for providing early information on the RCS project to funders. However, it is the measurement of long-term impact that provides information about sustainability of RCS efforts.

Funders should support strengthening of recipients' capacity for evaluation as an integral part of RCS projects and enable recipients to conduct the sustainability evaluation independently.

Suggested impact measures of RCS include local ownership (e.g. extent, manifestations), sub-national partnerships (e.g. number, nature, membership, outcomes, etc.) and enhanced visibility of the research institution in the national and international research community.

On an individual level, career tracking can be an important measure of sustainability, notwithstanding the challenges of its long-term nature and need to maintain contact over periods of movement and career changes. The focus of what to track also needs to be considered. For example, if a trained researcher becomes a policy-maker, should that be tracked and how?

To assess the impact and sustainability of RCS, changes not only in research, but also in health policy, programmes and practices should be measured. Indicators need to encompass relationships between research and knowledge users.

Some authors suggest developing quantitative indicators as standard for measuring impact. Others consider qualitative indicators more appropriate for assessing a long-term change. Finally, in addition to impact evaluation, authors suggest conducting a developmental evaluation in order to capture lasting change in research capacity.

### **Data quality and validation**

In addition to setting up data collection systems at the beginning of the project (to be able to measure baseline and collect data through the project), it is important to employ adequate data collection methods and data validation mechanisms.

Mixed methods for evaluation are recommended, employing them iteratively to test the evaluation hypothesis. Quantitative data collection is used more for regular monitoring, while an in-depth evaluation also requires qualitative data collection. This applies to realist, theory-driven, summative evaluations that are more relevant to funders and short-term in nature.

If evaluation results are to be used for learning and applied to ensure sustainable change, then a developmental evaluation more relevant to recipients should be employed.

Using multiple data sources and triangulation of data from different sources to verify results and obtain a full picture is also a recommended standard.

### **Funding for sustainability**

One of the tensions described in the evaluation reports was how to reconcile short-term funding, usually allocated for RCS evaluation, with the need to evaluate sustainability and impact (taking in some cases 20 years to show). Recommendations for recipients, stemming from RCS evaluation projects, include leveraging funding and obtaining matching funds, utilizing existing partnerships and choosing partners with a good track record to obtain funding. Recommendations for funders include matching and pooling funding for RCS and supporting guidance, tools and training for evaluation (for sustainability), not just conducting evaluation on the project.



## PM&amp;E Framework – Matrix with key indicators

Capacity components		Narrative summary	Indicators <sup>3</sup>	Means of verification
INDIVIDUAL	<b>outcome<sup>4</sup></b>	<ol style="list-style-type: none"> <li>1. Increased capacity to do research</li> <li>2. Increased capacity to manage research</li> <li>3. Increased capacity to apply and share results of research</li> </ol>	<ol style="list-style-type: none"> <li>1. Number of peer reviewed publications (with corresponding author from LMIC; number of conference papers; level of career development; number of prizes, number of awards, type of awards</li> <li>2. Number of competitive grants won per year (independently or as a part of a team); quality of plans and reports; quantity of funds obtained from other sources; number of approved research grants</li> <li>3. Number of participation times in policy processes (briefings and debates); number of consultancies (e.g. public, private, NGO sector); number of professional publications<sup>5</sup></li> </ol>	<ul style="list-style-type: none"> <li>• Annual reports</li> <li>• Mid-term and final interviews</li> <li>• Publications</li> <li>• Citation index</li> <li>• Grant agreement</li> </ul>
	<b>output</b>	<ol style="list-style-type: none"> <li>1. Researchers trained in research skills</li> <li>2. Researchers trained in management</li> <li>3. Researchers exposed to scientific community and informed on developments in their field; researchers experienced with stakeholder participation and teamwork; researchers trained regarding the application process of research funding agencies</li> </ol>	<ol style="list-style-type: none"> <li>1. Number of researchers trained in relevant research skills and areas (either as part of formal academic training or through specific courses)<sup>6</sup></li> <li>2. Number of researchers trained in research management</li> <li>3. Number of conferences attended; number of stakeholders who participated in programme design and implementation; number of researchers trained regarding the application of research</li> </ol>	<ul style="list-style-type: none"> <li>• Annual reports</li> <li>• Certificates</li> <li>• Personal interactions</li> </ul>
	<b>activities</b>	<ol style="list-style-type: none"> <li>1. Fund Masters (MSc) and Doctoral (PhD) programmes and postdoctoral fellowships; individual training on research skills.</li> <li>2. Support postdoctoral researchers to coordinate research; training on research management.</li> <li>3. Finance participation in conferences; strategic awards; workshops with non-academic stakeholders; trainings regarding the application of research (writing of policy papers, public relations, advocacy, etc.).</li> </ol>		

<sup>3</sup> Indicators and data should be disaggregated by gender, income level, discipline and level of award.

<sup>4</sup> Suggested outcomes are general examples and more specific outcomes can be developed for each specific project. The same applies for outcomes proposed on an organizational/institutional level following the Framework.

<sup>5</sup> Professional publications are publications that are not written for a scientific audience but for professionals (knowledge users).

<sup>6</sup> The content of the trainings will need to be further detailed in the specific partnership agreements – considering specific needs in a specific context, but also the expected outcomes and indicators at outcome level (the same applies to research management skills).

PM&E Framework – Matrix with key indicators (continued)

Capacity components	Narrative summary	Suggested indicators	Means of verification	
<b>ORGANISATIONAL</b>	<b>outcome</b>	<ol style="list-style-type: none"> <li>1. Increased capacity to manage the research organization, including managing research funds and grants</li> <li>2. Increased synergy between research organizations</li> <li>3. Increased capacity to apply and share results of research</li> </ol>	<ol style="list-style-type: none"> <li>1. Level of financial sustainability; registered research projects (number, funding level, funder spread); number of PhD and MSc students (by gender); student to supervisor ratio; existence of a unit dedicated to research management, researchers trained, quality of the organization according to national standards</li> <li>2. Number of joint activities with other research organizations; number of formal partnerships with other research organizations; number of joint scientific publications</li> <li>3. Number of collaborations with the public/private/ NGO sector</li> </ol>	<ul style="list-style-type: none"> <li>• Annual reports</li> <li>• Mid-term and final interviews</li> <li>• National accreditation reports</li> <li>• Contracts/memoranda of understanding</li> <li>• Site visits</li> <li>• Audits</li> <li>• Questionnaires</li> </ul>
	<b>output</b>	<ol style="list-style-type: none"> <li>1. Research organization adequately equipped and staffed with special attention to information and communication; management and administration structured and staff trained; curricula developed</li> <li>2. Partnership policies in place; inter-organizational scientific collaborations/ scientific networks strengthened</li> <li>3. Policies and strategies for communication and application of research results in place</li> </ol>	<ol style="list-style-type: none"> <li>1. Existence of relevant equipment (ICT, libraries and laboratories); number of trained management staff and supervisors (by gender); existence of strategic plans and management policies; quality of data management; number of curricula and courses developed</li> <li>2. Existence of partnership policies; number of inter-organizational meetings; number of members and meetings of scientific networks (by gender)</li> <li>3. Existence of policies and strategies for communication and application of research results in place</li> </ol>	<ul style="list-style-type: none"> <li>• Annual reports</li> <li>• Curricula</li> <li>• Policies and strategy papers</li> <li>• Site visits</li> <li>• Audits</li> <li>• Questionnaires</li> </ul>
	<b>activities</b>	<ol style="list-style-type: none"> <li>1. Finance infrastructure with special attention to ICT, libraries and laboratories; finance and support the training of management staff and supervisors; finance development of data management; support development of courses and curricula, support improvement regarding relevant aspects of the organization (policies, strategies, organizational structure, etc.)</li> <li>2. Support the development of partnership policies, support the inter-organizational scientific collaboration and networking of organizations</li> <li>3. Support the development of policies and strategies for communication and application of research results</li> </ol>		

## PM&amp;E Framework – Matrix with key indicators (continued)

Capacity components	Narrative summary	Indicators	Means of verification	
<b>NATIONAL AND REGIONAL RESEARCH SYSTEMS</b>	<b>outcome</b>	<ol style="list-style-type: none"> <li>1. Increased capacity of governmental and non-governmental organizations to link research, policy and practice</li> <li>2. Increased capacity and commitment of governmental organizations to support and fund research</li> <li>3. National standards and national and sub-national regulatory frameworks for research governance</li> </ol>	<ol style="list-style-type: none"> <li>1. Number of evidence-based policies; number of evidence-based development interventions</li> <li>2. Existence of scientific councils with transparent and efficient systems in place to evaluate and disburse competitive research funds; researcher salary on par or above other countries in region (by gender); level of funding of research by the government</li> <li>3. Research ethics standards adopted; accreditation and quality assurance standards for research institutions evaluation adopted; number of plans and policies to support research</li> </ol>	<ul style="list-style-type: none"> <li>• Annual reports (including most significant change stories about evidence-based policies and development interventions)</li> <li>• Mid-term and final interviews</li> <li>• National policies and strategies referencing research</li> <li>• National research budgets</li> </ul>
	<b>output</b>	<ol style="list-style-type: none"> <li>1. Transdisciplinary platforms established; trained personnel at ministries and NGOs; policy briefs and other knowledge transfer documents bridging research, policy and practice</li> <li>2. Trained personnel at ministries; scientific councils in developing countries established; members of these councils trained</li> <li>3. National and sub-national research priorities identified</li> </ol>	<ol style="list-style-type: none"> <li>1. Number of platforms, members and meetings; number of personnel at the ministry and NGOs trained (by gender); number of periodicals bridging research; policy and practice distributed to a relevant public</li> <li>2. Number of staff at ministries trained (by gender); number of meetings of the scientific councils; number of members of the scientific councils trained (by gender)</li> <li>3. Consultations held; list of priorities adopted by relevant bodies</li> </ol>	<ul style="list-style-type: none"> <li>• Annual reports</li> <li>• Personal interactions</li> </ul>
	<b>activities</b>	<ol style="list-style-type: none"> <li>1. Support the establishment of transdisciplinary platforms; finance training of personnel at ministries and NGOs.</li> <li>2. Finance training at ministries; support the establishment and training of emerging LMIC scientific councils.</li> <li>3. Finance stakeholder consultations to identify research priorities.</li> </ol>		



PM&E Framework – Matrix with key indicators (continued)

Capacity components		Narrative summary	Indicators	Means of verification
RESEARCH NETWORK	<b>outcome</b>	<ol style="list-style-type: none"> <li>1. Increases capacity of research networks to get research projects funded</li> <li>2. Increased capacity of research networks to produce new knowledge, conduct research</li> <li>3. Increased capacity of research networks to disseminate knowledge</li> </ol>	<ol style="list-style-type: none"> <li>1. Number of proposals developed; number of proposals submitted; number of proposals funded</li> <li>2. Number of research reports published; quality of research reports published</li> <li>3. Reach of research reports; number of knowledge exchange events (webinars, workshops, presentations, etc.)</li> </ol>	<ul style="list-style-type: none"> <li>• Annual reports</li> <li>• Grants</li> <li>• Published papers</li> <li>• Interviews</li> </ul>
	<b>output</b>	<ol style="list-style-type: none"> <li>1. New research networks formed</li> <li>2. Research network members adequately use their resources to contribute to the network functioning</li> <li>3. Research network members have the knowledge and skills for networking</li> <li>4. Existing research networks maintained</li> </ol>	<ol style="list-style-type: none"> <li>1. Number of new research networks formed</li> <li>2. Existence of adequate means for regular communication and exchange</li> <li>3. Existence of joint documents such as terms of reference, joint action plans, rules around competition-collaboration, etc.</li> <li>4. Duration of network maintenance</li> </ol>	<ul style="list-style-type: none"> <li>• Annual reports</li> <li>• Contracts/ memoranda of understanding</li> <li>• Interviews</li> </ul>
	<b>activities</b>	<ol style="list-style-type: none"> <li>1. Support the network infrastructure and administrative support.</li> <li>2. Support the development of partnership policies, the inter-organizational scientific collaboration and networking of organizations.</li> <li>3. Support the network’s dissemination activities.</li> </ol>		

## Global/international research environment

Based on review of 12 health RCS evaluations, some authors recommended separating three components of the higher level outcomes: national/sub-national research environment; global/international research environment; and research networks. In the above matrices, national/sub-national systems and research networks (that can be formed at sub-national, national or international level) are suggested.

No specific matrix for international or global level are suggested, because this level measures either the sum/aggregation of various national level indicators or it measures international networks. However, if in specific projects there are expected outcomes on the supra-national level that are greater than or different to the sum of its national parts, then specific outcomes, outputs and indicators should be developed.

## Impact

Due to variability among RCS projects, it is impossible to define one impact statement that would fit all. However, in line with recommendations that impact measurement should be the focus of RCS evaluation, this is a reminder to develop a specific impact statement and indicators for each RCS project.

Examples of donors' interest in impact include: stakeholder participation, opportunities for learning, demonstrating equity, quality assurance and optimizing the timing of evaluations. On an individual level, career tracking, including "ending up" not only in a research system but also in policy-making etc., are also examples of impact measurement.



## Sources

Accra Agenda for Action (2008), 3rd High Level Forum on Aid Effectiveness, September 2-4, Accra, Ghana.

Bates Imelda, Boyd Alan, Smith Helen and Cole Donald C (2014): *A practical and systematic approach to organisational capacity strengthening in the health sector in Africa*. Health Res Policy Syst, 12:11.

Bates Imelda, Boyd Alan, Aslanyan Garry and Cole Donald C (2015): *Tackling the tensions in evaluating capacity strengthening for health research in low- and middle-income countries*. Health Policy and Planning, 30:334-344.

Blagescu, Monica and Young, John (2006) Capacity Development for Policy Advocacy: *Current thinking and approaches among agencies supporting civil society organisations*. Working Paper 260, Overseas Development Institute, London, UK. <http://www.odi.org.uk/resources/details.asp?id=136&title=capacity-development-policy-advocacy-current-thinking-approaches-agencies-civil-society-organisations>, accessed on 29/03/2010

Bolger, Joe (2000) Capacity Development: Why, what and how?, Capacity Development, Occasional Series, Vol1/1, Canadian International Developing Agency (CIDA), Hull, QC, Canada. <http://seesac.org/sasp2/english/publications/7/capacity/2.pdf>, accessed on 29/10/2010

Boyd Alan, Cole Donald C, Cho Dan-Bi, Aslanyan Garry and Bates Imelda (2013): *Frameworks for evaluating health research capacity strengthening: a qualitative study*. Health Res Policy Syst, 11:46.

Center for the Theory of Change. *What is Theory of Change?* Accessed online at: <http://www.theoryof-change.org/what-is-theory-of-change/> on Nov 22, 2015

Cole Donald C, Boyd Alan, Aslanyan Garry and Bates Imelda (2014): *Indicators for tracking programmes to strengthen health research capacity in lower- and middle-income countries: a qualitative synthesis*. Health Res Policy Syst, 12:17.

Cole Donald C, Aslanyan Garry, Dunn Alison, Boyd Alan, Bates Imelda (2014): *Dilemmas of evaluation: health research capacity initiatives*. Bull World Health Organ, 92:920-921

Cooke, Jo (2005) A framework to evaluate research capacity building in health care, BCM Family Practice, 6:44. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC1289281/pdf/1471-2296-6-44.pdf>, accessed on 29/03/2010

DFID (2010 - draft 15/01/2010) *Capacity Building In Research: How To Note*, UK Department for International Development (DFID), London, UK.

DFID (2008) DFID Research Strategy 2008-2013. *Working Paper Series: Capacity Building*, UK Department for International Development (DFID), DFID, London, UK. [http://www.dfid.gov.uk/r4d/PDF/Outputs/Consultation/ResearchStrategyWorkingPaperfinal\\_capacity\\_P1.pdf](http://www.dfid.gov.uk/r4d/PDF/Outputs/Consultation/ResearchStrategyWorkingPaperfinal_capacity_P1.pdf), accessed on 18/10/2010

ESSENCE on Health Research (2014): *Seven principles for strengthening research capacity in low- and middle-income countries: simple ideas in a complex world*. ESSENCE Good practice document series. World Health Organization.

ESSENCE on Health Research (2014): *Research snapshot 3: Indicators for evaluating health research capacity strengthening*. World Health Organization.

Kaplan, Allan (1997) *Capacity Building: Shifting the Paradigms of Practice*, Community Development Resource Association, Cape Town, South Africa. <http://www.cdra.org.za/articles/Capacity%20Building%20%20by%20Allan%20Kaplan.htm>, accessed on 29/03/2010

KFPE (1998) *Guidelines for Research in Partnership with Developing Countries: 11 Principles*, Swiss Commission for Research Partnership with Developing Countries, Bern, Switzerland.

Land, Tony et al (2009) Capacity Development: between planned interventions and emergent processes. Implications for development cooperation, *Policy Management Brief No. 22*, European Centre for Development Policy Management (ECDPM), Maastricht, the Netherlands. [http://www.ecdpm.org/Web\\_ECDPM/Web/Content/Download.nsf/0/5E619EA3431DE022C12575990029E824/\\$FILE/PMB22\\_e\\_CDapproaches-capacitystudy.pdf](http://www.ecdpm.org/Web_ECDPM/Web/Content/Download.nsf/0/5E619EA3431DE022C12575990029E824/$FILE/PMB22_e_CDapproaches-capacitystudy.pdf), accessed on 29/03/2010

Neufeld Vic, Cole Donald C, Boyd Alan, Njelesani Donald, Bates Imelda and Hanney Stephen R (2014): *Perspectives on Evaluating Global Health Research for Development: A Background Paper*. Canadian Coalition for Global Health Research.

Neilson, Stephanie and Lusthaus, Charles (2007) *IDRC-Supported Capacity Building: Developing a Framework for Capturing Capacity Changes*, Universalia Consultants, Ottawa, ON, Canada. [http://www.idrc.ca/uploads/user-S/11762347991CB-Developing\\_Framework\\_Capturing\\_Capacity\\_Changes\\_FINAL.pdf](http://www.idrc.ca/uploads/user-S/11762347991CB-Developing_Framework_Capturing_Capacity_Changes_FINAL.pdf), accessed on 29/03/2010

OECD/DAC (2006) *The Challenge of Capacity Development: Working Towards Good Practice*, Organization for Economic Development and Co-operation (OECD), Paris, France.

Ofori-Adjei, David and Gyapong, John (2009): Capacity building for Relevant Health Research in Developing Countries. In: *Knowledge on the move: Emerging agendas for Development-oriented Research*, p178-184, International Development Publications, the Hague, the Netherlands. <http://www.nuffic.nl/home/news-events/docs/events/kotm/abstracts-and-papers/Capacity%20Building%20for%20Relevant%20Health%20Research%20final%20draft.pdf>, accessed on 29/03/2010.

Oswald, Katy and Clarke, Peter (Ed.) (2010) *Reflecting Collectively on Capacities for Change*, IDS Bulletin, Vol.41/3, May 2010.

*Performance Assessment Framework of the Special Programme for Research and Training in Tropical Diseases* (2010) WHO/TDR, Geneva, Switzerland.

RAWOO (1995) *Supporting capacity building for research in the South: Recommendations for Dutch policy*, The Netherlands Development Assistance Research Council (RAWOO), The Hague, the Netherlands. <http://www.nuffic.nl/international-organisations/information/publication/rawoo-publications>, accessed on 29/03/2010.

Salter Ammon J and Martin Ben (2001): *The economic benefits of publicly funded basic research: a critical review*. Research Policy, 30: 509 – 532.

Simister, Nigel (2010) *Monitoring and Evaluating Capacity Building: Is it really that difficult?*, International NGO Training and Research Centre (INTRAC), Oxford, UK.

The Paris Declaration on Aid Effectiveness (2005), High Level Forum on Aid Effectiveness, February 28-March 2, 2005, Organization for Economic Development and Co-operation (OECD), Paris, France.

UK Collaborative on Development Sciences (2015): *Franco-British Workshop: Evaluation of research capacity strengthening in Sub-Saharan Africa*. UKCDS. <http://www.ukcds.org.uk/sites/default/files/content/resources/Workshop%20report%20-%20UK-France%20meeting%20on%20evaluation%20of%20RCS.pdf> accessed on 06/12/2015

UK Collaborative on Development Sciences (2015): *Health Research Capacity Strengthening: A UKCDS Mapping*. UKCSD. [http://www.ukcds.org.uk/sites/default/files/content/resources/UKCDS\\_Health\\_Research\\_Capacity\\_Strengthening\\_Mapping.pdf](http://www.ukcds.org.uk/sites/default/files/content/resources/UKCDS_Health_Research_Capacity_Strengthening_Mapping.pdf) accessed on 06/12/2015

UK Collaborative on Development Sciences (2015): *Rapid mapping of international funders' research capacity strengthening priorities*. UKCSD. <http://www.ukcds.org.uk/sites/default/files/content/resources/UKCDS%20rapid%20RCS%20mapping%20for%20DFID.pdf> accessed on 06/12/2015

Vogel Isabel (2012). *Review of the use of 'Theory of Change' in international development*. Review report. DFID.

Watson, David (2006) *Monitoring of Capacity and Capacity Development, ECDPM Discussion Paper 58B*, European Centre for Development Policy Management (ECDPM), Maastricht, the Netherlands.

[http://www.ecdpm.org/Web\\_ECDPM/Web/Content/Navigation.nsf/index2?readform](http://www.ecdpm.org/Web_ECDPM/Web/Content/Navigation.nsf/index2?readform) and [http://www.ecdpm.org/Web\\_ECDPM/Web/Content/Content.nsf/vwDocID/59833D39F5B7DBB2C12570B5004DCB92?OpenDocument](http://www.ecdpm.org/Web_ECDPM/Web/Content/Content.nsf/vwDocID/59833D39F5B7DBB2C12570B5004DCB92?OpenDocument), accessed on 02/10/2010

Wessels Insa, Bauer Daniel, Eberhardt Kirsten A, Fischer Martin R, Huber Johanna, Jordan-Harder Brigitte, Kroidl Arne, Lennemann Tessa, Maboko Leonard and Kiessling Claudia (unpublished draft):

*Capacity strengthening in health research and its evaluation: two conceptual frameworks based on a synthesis of the literature*.

Wixted Brian and Holbrook Adam J (2008): *Conceptual Issues in the Evaluation of Formal Research Network*. Centre for Policy Research on Science and Technology, Simon Fraser University. <http://www.sfu.ca/cprost-old/docs/WixtedHolbrook2009-4.pdf> accessed on 06/12/2015

WHO (2009) *WHO's role and responsibilities in health research: Bamako Global Ministerial Forum on Research for Health*, Executive Board, 124th Session, World Health Organization, Geneva, Switzerland.







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