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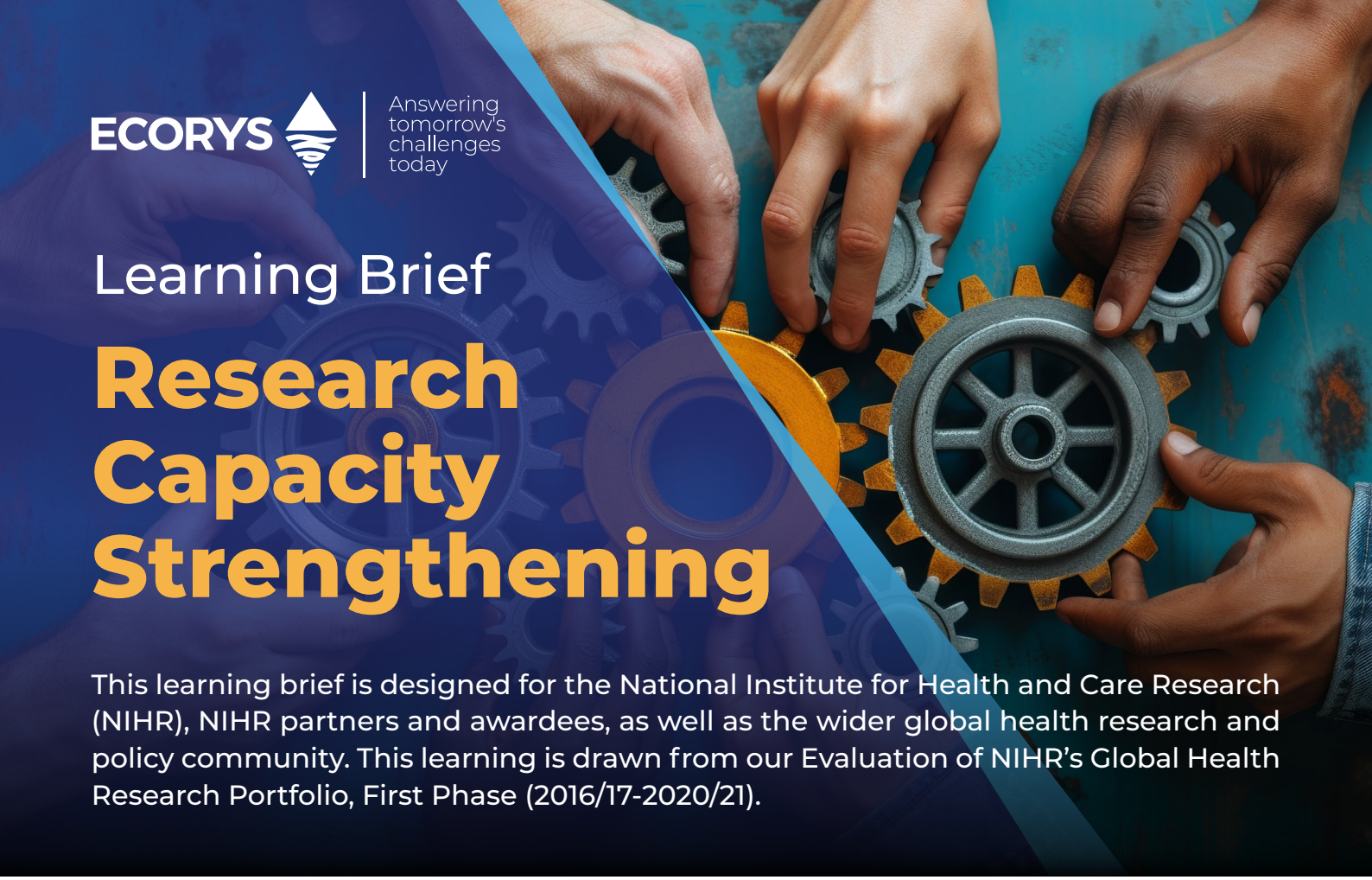


Learning Brief

Research Capacity Strengthening

This learning brief is designed for the National Institute for Health and Care Research (NIHR), NIHR partners and awardees, as well as the wider global health research and policy community. This learning is drawn from our Evaluation of NIHR's Global Health Research Portfolio, First Phase (2016/17-2020/21).

What's the issue?

Strengthened health research capacity in Low and Middle-Income Countries (LMICs) should be prioritised to tackle high rates of morbidity and mortality in those settings and foster a thriving population. Improving health and well-being across LMICs requires a critical mass of researchers who are well-versed in local, national, and regional health challenges. LMIC researchers also understand the cultural, social, economic, and political contexts that influence the effectiveness of interventions to address specific health and health policy issues. Investing in training and strengthening the research capacity of LMIC individuals and institutions not only helps foster a research culture and solidify local ownership of research, but also ensures that the most appropriate solutions are developed, increasing their likelihood of sustainability over time. Additionally, this has the potential to increase LMICs' international standing and contribute to their economic progress. From a global perspective, RCS in LMICs brings potential for worldwide benefits, such as in robust global health systems for prevention and tackling of infectious diseases that risk spreading to other countries. There is also potential for scientists and researchers across the world, including in high-income countries such as the UK, to learn from expertise, approaches and solutions developed in LMICs.

While there are many skilled clinicians and researchers in LMICs, challenges remain in the following:

- **Health research skillset:** Insufficient numbers of LMIC individuals with the knowledge and skills to conduct health research and insufficient opportunities for progressive training in health research skills, preparing researchers to apply for and effectively implement health research projects;
- **Independence and leadership:** Challenges in LMIC researchers accessing resources and funding to own and drive the response to health research needs;
- **Contextual relevance:** Need for more LMIC-led health research with specific relevance and detail to contribute to locally appropriate interventions and health policies that lead to improved health and wellbeing;
- **Operational capacity:** Lack of sufficiently robust organisational structures and processes within many LMIC institutions to manage and deliver the research; and
- **Enabling environment:** LMICs often face a challenging environment, with limited opportunities for inter-institutional mutual support, collaboration, networking, thematic learning and mechanisms for policy uptake, combined with scarce research funding, including scarce funding for international conferences and engagement.

Key considerations from the literature

The literature provides evidence of best practices in the design and implementation of Research Capacity Strengthening (RCS). Although definitions differ, RCS typically centres around improving the abilities of individuals, institutions and systems to perform research functions, defining and solving national problems and priorities, and utilising the results of research in policy making and programme delivery.

This refers not only to strengthening research-specific capacity, but also the research support functions, including management and finance. For example, the UK Collaborative on Development Research (UKCDR) defines this as "developing people and institutions, fostering collaborations across disciplines and sectors, building supporting infrastructure, and a strong enabling environment for research and research actors to thrive".[1]

It is recognised that it is important to go beyond solely funding individual research projects, and the various predominant models for RCS tend to focus on the following:

- North-South partnerships – capable and shared leadership within sustained and equitable partnerships that promote skills sharing
- General RCS, often embedded in a specific subject area, for example, policy analysis
- Short- and long-term training
- Innovative funding mechanisms with adequate and sustainable funding and resources
- Addressing the individual, organisational and institutional level in tandem
- Mentorship
- Development of sustainable professional networks, including long-term planning and collaboration among a wide community of stakeholders
- Linking of research to policy and practice
- Application of monitoring and evaluation frameworks that ensure evidence-based learning, development and implementation of RCS approaches.

Specifically, within health, many research initiatives focus solely on investigating high profile diseases and interventions rather than incorporating broader approaches to enhancing sustainable research capacity. Capacity development is often not prioritised due to an assumption that capacity will naturally develop when the research is conducted. While some research projects may focus on individual RCS, only very few are dedicated to implementing systems- or institutional-level approaches to developing capacity, despite efforts being made particularly in involving policymakers.

RCS can be viewed at three interlinked levels: individual, institutional and systems level.

1. Individuals: Developing individual researchers' (at any stage in research careers) and research teams' careers through involvement in research awards, training, scholarships and fellowships, soft skills development courses, mentoring, networking, placements, exchanges and collaboration.

2. Institutions: Strengthening the capacity of research departments, institutes, think tanks and networks of research organisations to fund, manage and sustain themselves and their own research. For instance, this can be achieved through providing research facilities (e.g., laboratories), career incentives and training for research staff and support staff, fundraising schemes, research management systems and networks.

3. Systems: Improving enabling national and international research systems through improving the structures, political and regulatory context under which research is undertaken and used. This can be achieved through strengthening research culture and best practice principles, research links to government and society, or national research budget allocations.

UKCDR identified the following five cross-cutting enablers that support RCS:

- **LMIC ownership:** support LMIC leadership of agenda setting, design and implementation of RCS
- **Long-term approach:** ensure funding and evaluation frameworks prioritise sustainability in RCS
- **Coordination:** enhance coordination of RCS approaches across funders at the individual, institutional and enabling levels
- **Partnerships and collaboration:** promote equitable partnerships and co-creation within funding calls and funded programmes
- **Understanding impact:** invest in understanding what works where, to guide future funding decisions and programme design. Evidence-based learning is essential for embedding effective, sustainable research capacity.

1 Research Capacity Strengthening: lessons from UK-funded initiatives in low- and middle-income countries – UKCDR

NIHR's approach

Aligning with the UKCDR definition above, RCS is integral to the overall aims of NIHR's Global Health Research (GHR) portfolio. As outlined in the Theory of Change (ToC), the portfolio aims to contribute strengthened individual, community and health system capacity for health promotion and disease prevention. In the long term, this aims to lead to improved health and wellbeing in LMICs by 2030, in line with SDG 3, and contribute towards economic development and welfare in LMICs. RCS features in expected short-term outputs "LMIC and UK researchers trained and increased research-enabling staff capacity", mid-term outcomes "LMIC institutional capacity strengthened to contribute to and lead high-quality research and training", and long-term impacts "sustainable growth of the LMIC research ecosystem".

Within the call guidance, NIHR recognises that there is no single agreed definition of RCS but highlights the UKCDR definition of RCS as 'Enhancing the ability and resources of individuals, institutions and/or systems to undertake, communicate and/or use high quality research efficiently, effectively and sustainably'. For NIHR GHR Programmes, the objectives and priorities for RCS identified by/with local stakeholder should support or bring sustainable solutions to key national problems within LMICs. Teams should consider and cost activities that will build both researcher capacity and support wider finance and research management capacity.

The NIHR GHR portfolio embraces RCS in LMICs and the UK as one of its operating principles, alongside equitable partnerships and community engagement and involvement (CEI). For instance, RCS is included as a requirement in the core guidance for NIHR-led programmes, thereby ensuring award applicants incorporate RCS into their research design and application.

NIHR funded a wide range of RCS activities, for example:

- Full or partial formal training posts, including PhDs, Masters and Post-Doc positions
- Training technical research skills and personal development skills such as grant writing, writing for publication, communication and influencing skills, time management, team working
- Other wider institutional capacity strengthening activities such as finance management, research management, data management, legal compliance and assurance training
- Institutional systems for coaching, mentoring and peer mentorship.

These activities were delivered through a range of mechanisms, including courses, workshops, exchanges, other relevant training activities and more informal opportunities.

Our findings

Ecorys conducted an evaluation of the first phase of the NIHR GHR portfolio, which entailed a review of 27 of its 30 programmes, and a more detailed exploration of 21 sampled awards.

Key findings

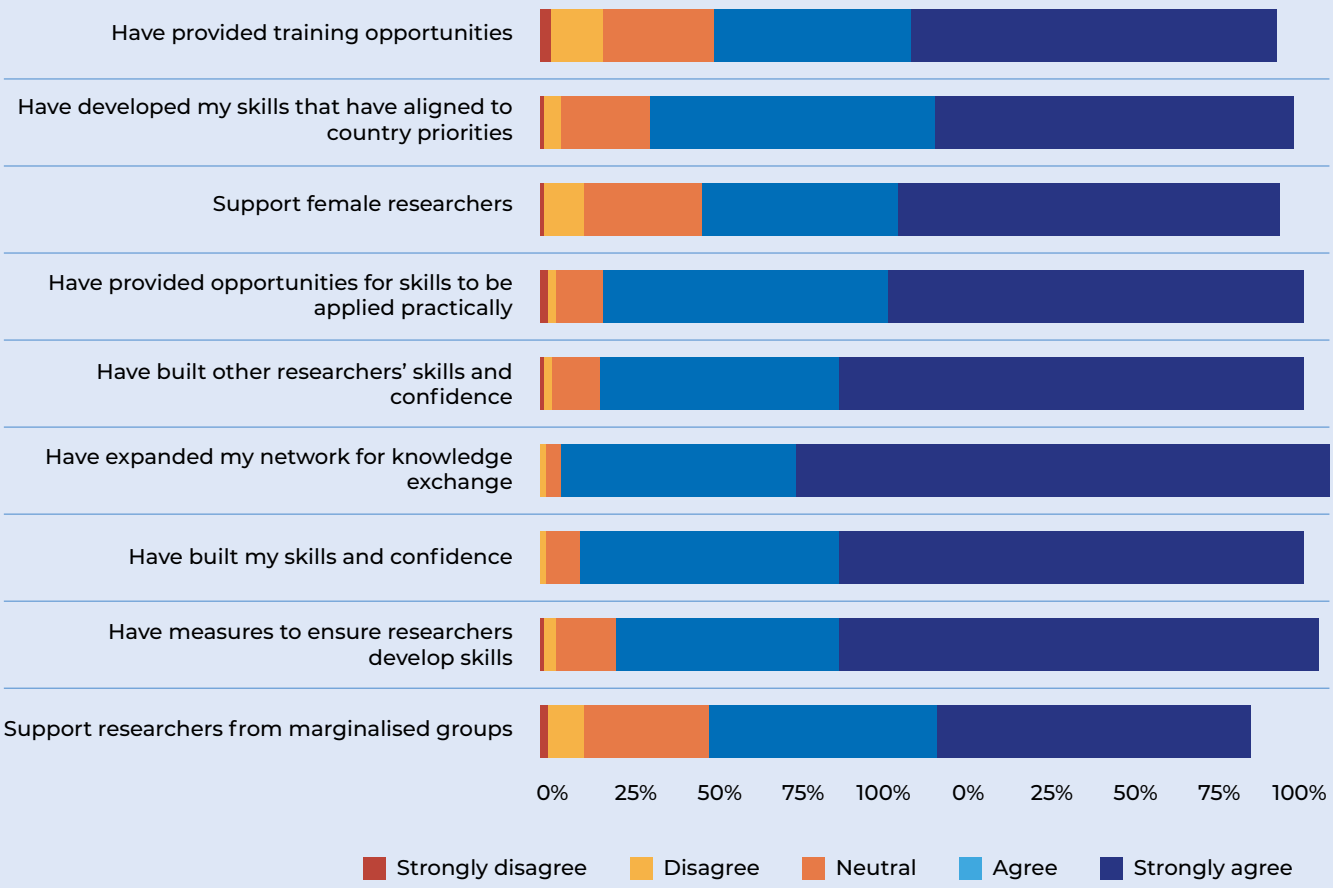
The evaluation found that researchers who are embedded in communities and health systems, with longstanding relationships and connections, are better placed to influence policy and practice. Highly effective award models reviewed in this evaluation included those working with LMIC centres of excellence aiming to build regional capacity through relationships and collaboration between different institutions, academics, practitioners and clinicians. This helped build the capacity of people who deliver services, through exposure to a constant cycle of improving learning and practice.

The wide range of RCS mechanisms and approaches gave rise to improved capacity in varying ways at individual, institutional and systems levels:

- **At individual level** the awards resulted in opportunities to prioritise/develop a research career, individuals benefited from improving their applied research skillset as well as their soft skills. The awards resulted in improving reputation/status of researchers as well as opportunities for participating in sharing learning nationally and internationally.

- **Institutional level.** While many of the individual level changes above were expected to link and lead to longer-term changes at an institutional level too, there were also specific cases of direct institutional RCS efforts. These were nevertheless fewer and less progressed than the individual ones. Key areas emerging include: establishing a sustainable research infrastructure; strengthened collaboration and knowledge exchange; and strengthened project and financial management processes.
- **Systems level.** Awards' individual and institutional level changes were often designed to feed into systems level and the enabling environment for research, with indications of this beginning to happen. In particular: strengthening policy makers' and government officials' applied health research knowledge, strengthening the health system/ practitioners and improving community awareness.

Results of the survey of award holders demonstrated positive results in the NIHR GHR's contribution to skills and capacity strengthening



Key lessons

The three RCS levels are strongly interdependent, with the individual level providing the basis for the other two. Integrating equitable partnerships in approaches, combined with community engagement and inclusion, are crucial to success and are further explored in two separate learning briefs. The following RCS learning points emerged from the sampled awards:

- **Dependency on funding sustainability.** There is a need for long-term support to ensure RCS and policy and health impacts are achieved and sustained, with particular risks that follow-on funding may not be available for mid-career individuals. Additionally, it is important for sufficient funds to be available for RCS during the award timeframe to ensure that RCS can be supported and capacity built.

- **Socio-economic barriers and enablers.** Women face particular barriers in participating in science and global health research and need targeted support that is strategically planned to help them progress in their careers. There were generally limited strategic approaches in place to respond to the gender equity and social inclusion issues in global health research.[2] There are also broader socio-economic barriers and enablers related to country-specific research skills levels, researcher income salaries, or prior opportunities to gain research experience which influence individuals' access to RCS. Often those most in need of RCS will be least able to access it, as, for instance, they may lack skills in proposal writing, institutional support to prioritise research over clinical workloads, more 'hands-on' support from mentors if it is the first time in academia, and other necessary elements to receive grants.

- **Contextual challenges.** There are some macro level issues that impact RCS, such as country fragility/conflicts, connectivity issues and COVID-19 halting and delaying activities; it is important to be sensitive to these, taking time to find ways to adapt to these. Cultural sensitivity is crucial to inform appropriate delivery. Brain drain and staff retention are also key issues that affect long-term, higher level RCS, but available follow-on funding, combined with improvements in research capacity and opportunities at systems level should help. For instance, systems level opportunities include integrating research and results into national programmes, joining national and regional working groups and sharing experiences in conferences and other wider platforms.

- **Levels of support from funder.** The funder has opportunities to provide important support in relation to RCS, in addition to ensuring processes and requirements are designed appropriately to be as accessible as possible. For example, in providing pre-application support to ensure the process and requirements are accessible for less experienced applicants, applicants with lower computer literacy, or applicants with weaker English communication skills, or in providing RCS advice or materials during implementation, such as regarding budget reporting. There are also opportunities for the funder to provide learning opportunities across programmes and/or awards to facilitate better learning.

- **Learning by doing.** When ongoing learning and adaptation are embedded within awards, it becomes important to take the time to discuss and agree, learn from experience and adjust on an ongoing basis, and there should be systems and processes to support this. Constructive, equitable partnerships are key in this.[3] There is also strong potential in integrated approaches that build on existing structures and local networks to embed RCS within clinical and Ministry of Health systems, and to ensure alignment with the local context.

Further reading

UK CDR: Research Capacity Strengthening: lessons from UK-funded initiatives in low- and middle-income countries

https://ukcdr.org.uk/resource/research-capacity-strengthening-lessons-from-uk-funded-initiatives-in-low-and-middle-income-countries/

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ESSENCE on Health Research and CCR (2023) Effective Research Capacity Strengthening: A Quick Guide for Funders. Available at

https://tdr.who.int/publications/m/item/effective-research-capacity-strengthening

2 See the Community Engagement and Inclusion Learning Brief for a more detailed overview of this finding.

3 See the Equitable Partnerships Learning Brief for a more detailed overview of this finding.