





CAPACITY STRENGTHENING INITIATIVES FOR RESEARCH MANAGEMENT AND ADMINISTRATION PROFESSIONALS IN LMICs: A SCOPING REVIEW

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ABSTRACT

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| What is new? | <p>Research Management and Administration Professionals (RMAPs) in low- and middle-income countries (LMICs) are critical to research quality and equitable partnerships but face fragmented, under-resourced and poorly professionalised development pathways, with limited access to context-appropriate capacity strengthening initiatives.</p> <p>Despite growing recognition of their importance, there has been no prior systematic or scoping review describing which capacity strengthening programmes exist for RMAPs in LMICs, which competencies they target, how they are delivered or evaluated, or where key gaps remain. This review addresses that gap and provides the first framework-based mapping of such initiatives.</p> |
| What was the approach? | <p>A scoping review was conducted following the methodological framework “Steps for Conducting a Scoping Review” and reported in line with PRISMA-ScR guidelines.</p> |

Eligibility criteria focused on capacity strengthening interventions for RMAPs involved in research management or support in LMIC settings, including training, workshops, mentorship, workplace learning and professional frameworks.

Searches of Medline, ASSIA, AMED, Business Source Ultimate, Educational Administration Abstracts, Regional Business News and Scopus (2004 onwards) were undertaken in January 2025 with an updated search in September 2025, supplemented by structured Google-based grey literature searches and purposive identification of initiatives via professional networks.

Citations were screened in Rayyan using a multi reviewer process.

Data were extracted using a piloted template and synthesised narratively; interventions were categorised into five capacity strengthening types and mapped against the Southern African Research and Innovation Management Association (SARIMA) Professional Competency Framework using a three-level evidence scale.

What is the academic impact?

Fifteen identified initiatives were implemented between 2011 and 2025, predominantly in sub-Saharan Africa with one in Brazil and none documented from Asia, the Pacific or the Middle East, indicating both emerging activity and substantial geographic gaps in the published and grey literature.

Across these initiatives, systems level capacity strengthening was most common (11/15), followed by mentorship and peer-to-peer support (10/15), short-term training (9/15), embedded or long-term training (8/15) and professional frameworks or standards (5/15), reflecting a strong orientation towards organisational reform complemented by varied people-focused approaches.

Mapping to the SARIMA Professional Competency Framework showed concentrated strengths in operational domains, particularly organisation and delivery of research management services, pre-award funding, and aspects of post-award management and data and information management, while strategic domains such as planning and policy development, researcher development, partnerships

and collaboration, and research uptake and impact were inconsistently or only indirectly addressed.

Only seven initiatives reported any evaluation of outcomes relevant to RMAPs, with considerable heterogeneity in methods and a predominance of short term or descriptive assessments; robust, competency-aligned evaluation of long-term individual and institutional change was rare. By consolidating this evidence, classifying intervention models and systematically mapping competency coverage and evaluation practices, the review contributes a structured overview of how research management capacity is currently conceptualised and strengthened in LMICs and highlights critical gaps in strategic competency development, professionalisation and evidence on effectiveness within Research Management and Administration studies.

What is the wider impact?

The findings underscore that strengthening research management in LMICs cannot rely solely on short-term training or isolated system reforms; institutional leaders and funders need to invest in sustained, competency-based pathways that integrate RMAP roles into human resource structures, support career progression and embed research management into organisational governance.

Practitioners designing capacity strengthening initiatives should explicitly incorporate strategic and leadership competencies, alongside operational skills, to position RMAPs as strategic actors in research systems rather than purely as compliance-focused support staff.

The review highlights mentorship, peer learning and communities of practice as recurrent and valued components of initiatives, suggesting that formalising and resourcing such networks through regional associations, consortia and institutional partnerships could be a scalable, context-appropriate mechanism for ongoing professional development.

Addressing geographic underrepresentation and improving documentation, evaluation and sharing of RMAP capacity strengthening efforts, potentially through curated repositories of tools and training materials, would support more equitable access to high-quality resources and enable

cross-regional learning among research and management practitioners.

Keywords

Research Management and Administration Professionals, RMA, RMAP, Training, Capacity Strengthening, Research Support, Research Governance

INTRODUCTION

Research management and administration (RMA) is an essential component of contemporary research systems. As international collaborations expand and compliance requirements intensify, research managers are increasingly responsible for navigating contracting, risk management, financial oversight, data governance and the strategic use of research information systems (Poli et al., 2023; Springer Nature, 2023). These functions underpin the quality, integrity and efficiency of research, and are now considered as critical to institutions' ability to participate credibly in global research environments.

Within this landscape, Research Management and Administration Professionals (RMAPs), including project managers, officers, administrators and coordinators, play a pivotal role across the research lifecycle. These responsibilities are central to institutional accountability and to the functioning of equitable research partnerships. According to the UKCDR/ESSENCE "Four Approaches to Supporting Equitable Research Partnerships", (ESSENCE on Health Research & UKCDR, 2022) strong administrative and financial systems, the "relationship hardware" of equity, are required for fair costing and pricing, transparent contracting, due diligence, data sharing and governance. In practice, RMAPs design and operate many of these systems, drawing on knowledge from higher education management, project management, science and innovation systems and RMA-specific professional frameworks. Their work therefore directly shapes institutional accountability and the extent to which low- and middle-income country (LMIC) organisations can participate as equal partners in collaborative research. However, the ability of RMAPs to fulfil these functions depends heavily on the institutional and systemic environments in which they operate, which differ markedly between high-income and low- and middle-income settings.

RMAPs working in LMICs face distinct challenges shaped by structural and resource constraints. A synthesis of 28 research management and support capacity assessments across 25 institutions in 15 sub-Saharan African countries identified 13 recurrent categories of weakness, including limited physical and information & communication technology (ICT) infrastructure, inefficient financial and procurement systems, insufficient research governance, overstretched support staff and fragmented pre- and post-award processes, all aggravated by severe fiscal constraints and complex bureaucracies (Pulford et al., 2020). The study found limited access to training/professional development for research support staff and limited/nil institutional structures/services to support professional development within the field. Further evidence from comparative analyses shows that countries such as the United Kingdom,

the United States and Canada have well-established professional structures for RMA, whereas many African and South American countries are at early stages of professionalisation, lacking associations, structured training pathways and recognised career trajectories (Poli et al., 2023). These findings underline the need to examine the situation of RMAPs in LMICs separately from those in high-income settings.

Existing evidence on training and professional development for RMAPs in LMICs suggests a fragmented and insufficiently developed landscape. A competency-based needs assessment involving research managers and administrators in 15 African countries and the UK found substantial variation in confidence across nine core competency areas—including financial management, project management, equitable partnerships, monitoring and evaluation (M&E), ethics and reporting—with many African respondents relying on self-learning or informal peer support due to limited access to structured, context-appropriate training (Nembaware et al., 2022). Existing programmes were often costly, inaccessible or oriented towards degree level qualifications developed in high income settings, with limited applicability to LMIC research contexts.

Despite growing recognition of RMAPs' importance for research quality and equitable partnership functioning, there is limited evidence that systematically describes capacity strengthening initiatives that target this workforce in LMICs. It remains unclear what programmes exist, which competencies they address, how they are delivered and evaluated, and to what extent they contribute to sustainable institutional strengthening or more equitable collaborations. A preliminary search of PROSPERO, the Research Registry, the Open Science Framework and JBI Evidence Synthesis identified no existing or ongoing systematic or scoping reviews on this topic.

OBJECTIVES

This scoping review was undertaken to map and explore the landscape of capacity strengthening initiatives aimed at RMAPs working within LMICs. Guided by a Population-Concept-Context framework, the primary review question was: What capacity strengthening initiatives exist for RMAPs working in LMICs? Secondary questions examined: (i) what types of capacity strengthening approaches were used; (ii) which competencies and skills are targeted; (iii) how these initiatives are delivered; and (iv) how they are evaluated.

By addressing these questions, the review aims to provide a structured overview of the current evidence base, identify gaps in competency coverage and evaluation, and inform future research and programme design for strengthening research management capacity in LMIC contexts.

METHODS

This scoping review was conducted in accordance with the methodological framework outlined in *Steps for Conducting a Scoping Review* (Mak & Thomas, 2022) and is

reported following the PRISMA-ScR (Preferred Reporting Items for Systematic Reviews and Meta-Analyses extension for Scoping Reviews) guidelines (Tricco et al., 2018).

PROTOCOL AND ELIGIBILITY CRITERIA

A review protocol was developed a priori to guide eligibility criteria, search strategy, screening and data extraction. The protocol was not registered in a public repository but was used consistently throughout the review process and is available from the corresponding author upon request. Eligibility criteria were defined using a Population-Concept-Context framework.

- Population: Research management and/or administration professionals (RMAPs), defined as staff supporting research systems, including research administrators, officers, managers, and related roles. Studies focusing exclusively on researchers, librarians, ethics administrators, or professionals in non-research settings were excluded.
- Concept: Capacity strengthening initiatives relevant to research administration or management, including training, workshops, workplace learning, mentorship, onboarding packages and professional development activities. Initiatives focused solely on technical research skill development (e.g. scientific writing, data collection, data analysis) were excluded.
- Context: Initiatives designed for or implemented in LMICs, including those delivered through international research collaborations involving LMIC partners.

Sources published from 2004 onwards were eligible, reflecting the increasing use of digital tools in the field.

SEARCH STRATEGY AND INFORMATION SOURCES

The search strategy was developed iteratively in consultation with a second author and a university librarian and combined three core concept areas: (1) RMAPs, (2) capacity strengthening approaches and (3) LMIC settings. Controlled vocabulary and free-text terms were used, and the Cochrane Effective Practice and Organisation of Care (EPOC) LMIC filter (Cochrane EPOC group, 2023) was applied. Searches were conducted in the following databases: Medline, Assia, AMED, Business Source Ultimate, Educational Administration Abstracts, Regional Business News and Scopus. Searches were conducted initially in January 2025, with an updated search for 2024-2025 publications undertaken in September 2025. The full electronic search strategy for Scopus is provided in Appendix A, with additional details available in the study protocol.

Given the applied and practice-oriented nature of research management, grey literature searching was undertaken to identify relevant initiatives not indexed in academic databases. This included structured Google searches conducted on three occasions, with the most recent search undertaken in November 2025, as well as targeted searches of institutional repositories, research funder websites, international development organisations and professional association resources. A summary of grey literature sources is provided in Appendix B. To supplement publicly available

information from grey literature findings, attempts were made to contact programme organisers via email.

SCREENING AND SELECTION PROCESS

All records retrieved from database searches were imported into Rayyan, a web-based platform for systematic review screening (Ouzzani et al., 2016). Duplicate records were identified and removed within Rayyan prior to screening. Screening was conducted in two stages: title and abstract screening, followed by full-text review, using the predefined eligibility criteria.

One reviewer screened all titles and abstracts. To enhance consistency and rigour, a second reviewer independently screened a random sample of 7% of the records using Rayyan's blind review feature. Discrepancies were resolved through discussion and consensus, and eligibility criteria were clarified where necessary before proceeding with full screening.

A total of 65 articles were identified for full-text review. Of these, 18 articles were independently assessed by a third reviewer to ensure consistency, and disagreements on three articles were resolved in consultation with a fourth author. Reasons for exclusion at full text stage were recorded and the overall process was documented using a PRISMA flow diagram.

DATA EXTRACTION AND SYNTHESIS

Data were extracted into a charting template, which captured core characteristics of each initiative, including provider, year, region, delivery format and duration, target population, intervention components, stated aims, evaluation methods and outcomes, reported challenges and status. The extraction template was independently piloted by two reviewers to check usability, after which the lead author completed extraction for all sources, with 20% double-extracted by a second reviewer to enhance consistency; discrepancies were resolved through discussion and consensus. Extracted data informed both the descriptive tables and the narrative synthesis.

An attempt was made to verify the current status of each initiative beyond what was reported in the publications, by searching partner and institutional websites, social media accounts and public posts by individuals involved in programme delivery. Where such sources were found, their URLs or descriptive notes were recorded in the extraction log and used to inform the Status column.

Extracted data were synthesised using a narrative, framework-based approach. Interventions were deductively categorised into five predefined groups: (1) short-term training, referring to structured workshops of 1–5 days targeting specific RMAP skills; (2) embedded or long-term training, including extended programmes such as multi-month placements; (3) mentorship and peer-to-peer support, involving formal or informal guidance from experienced professionals, including professional networks; (4) professional frameworks and competency models, such as competency frameworks, accreditation mechanisms or openly available toolkits; and (5) systems-level capacity

strengthening, comprising organisational or interorganisational interventions aiming to improve governance, infrastructure, policies or management systems.

To assess how initiatives contributed to research management capacity, all sources were mapped against the Southern African Research and Innovation Management Association (SARIMA) Professional Competency Framework (PCF), which outlines nine competency areas spanning operational, managerial and strategic responsibilities: *Organisation and Delivery of research management services, Planning, Strategy and Policy Development; Researcher Development, Partnerships and Collaboration, Pre-award Funding, Ethics and Integrity, Post-award Management, Data and Information Management, and Research Uptake, Utilisation and Impact.* The *Researcher Development* domain includes support for postgraduate and early career researchers through induction, structured systems and career development activities.

Each initiative was coded using a three-level evidence scale: ● clear evidence, ● limited or implied evidence, and ○ no evidence, distinguishing explicit competency strengthening from partial, indirect or absent coverage, including cases where RMAPs were not clearly identified within broader participant groups.

RESULTS

A total of 19,894 database records and 20 grey-literature items were identified. After removing 3,058 duplicates, 16,836 records were screened by title/abstract. Sixty-five articles underwent full-text review, with 10 meeting inclusion criteria. Of the 20 grey-literature sources screened in full, 5 met the criteria. In total, 15 initiatives were included (10 peer-reviewed, 5 grey literature). The PRISMA flow diagram (Figure 1) summarises this process.

PEER-REVIEWED ACADEMIC DATABASE FINDINGS

The review identified 10 peer-reviewed studies describing capacity strengthening initiatives relevant to RMAPs in LMICs (Gomo et al., 2011; Kakande et al., 2012; Tumwijekye et al., 2013; Aidam & Sombié, 2016; Hedt-Gauthier et al., 2017; Odiaka et al., 2018; Oliveira et al., 2019; Williamson et al., 2020; Pulford et al., 2023; Jedy-Agba et al., 2024) (Table 1). Published between 2011 and 2024, these studies reflect a growing recognition that strengthening research support systems is essential to the performance, sustainability, and equity of LMIC research ecosystems, complementing long-standing investments in scientific and technical capacity.

Most initiatives were implemented in sub-Saharan Africa, including Malawi, Uganda, Ghana, Mozambique, Rwanda, Tanzania, Zambia, Nigeria, South Africa, and multi-country African consortia. One study was based in Brazil, and several involved Africa-UK partnerships, highlighting the increasingly international nature of research management capacity strengthening. Institutional settings varied widely, spanning universities, research centres, health organisations, regional networks, and multi-country implementation partnerships.

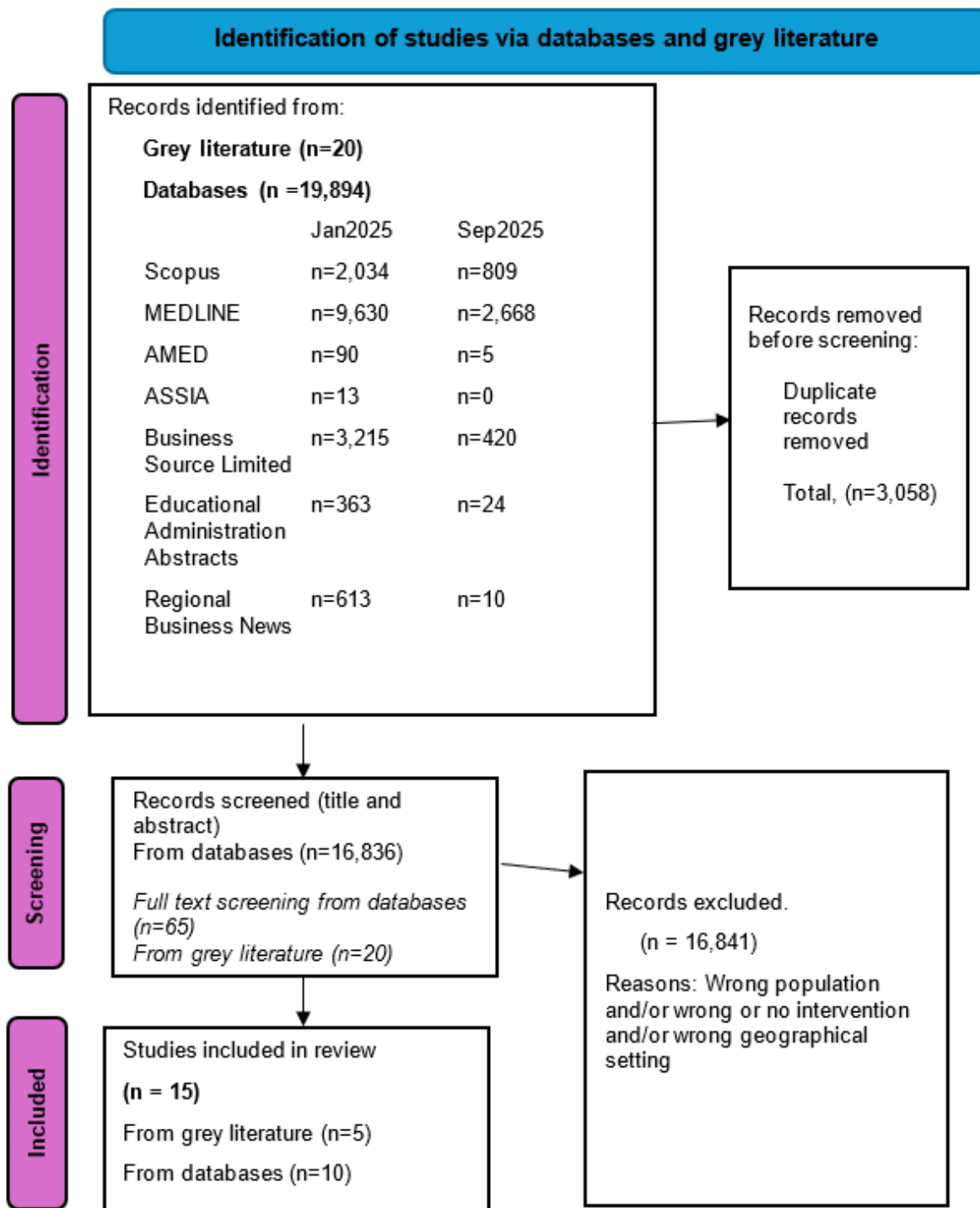


Figure 1: Prisma flow diagram

Across the 10 studies, five initiatives focused primarily or exclusively on RMAPs as the main target group. These interventions explicitly aimed to strengthen the skills and roles of research administrators, project and programme managers, grant officers, finance personnel, data managers, and other professional staff responsible for research support functions.

The remaining five studies included RMAPs as part of a broader beneficiary group, typically alongside researchers, ethics officers, programme leads, or clinical staff. In

these cases, RMAPs were either explicitly identified as participants or were embedded within institutional or consortium-level strengthening efforts where research management functions formed a core component of the intervention. Although not always the sole focus, these studies still provided relevant insights into how RMAP competencies were supported within wider research capacity strengthening programmes.

GREY LITERATURE FINDINGS

This review identified five grey literature initiatives focused on strengthening RMA capacity across African institutions and consortia, with some links to UK partners (ARMA, AESA, 2020; AFIDEP, 2022; EACCR, 2023; University of Nairobi, 2023; SFA Foundation, 2025). These programmes, implemented between 2020 and 2025, demonstrate diverse approaches to addressing gaps in research administration and governance and professionalisation in LMICs.

Programme characteristics are summarised in Table 2.

Two initiatives, REMACS and the EACCR Research Management Training Workshop, operated at regional or pan-African scale, while the remaining three were institutional or collaborative efforts (University of Nairobi, AFIDEP, and ARMA-AESA/ReMPro Africa's IRMSDP). Across all initiatives, the stated aims consistently centred on strengthening grant administration, project management, compliance, research governance, and leadership within research support systems.

Programme status varied. REMACS remains active, with outcomes linked to the rollout of the GRMP standard launched in 2025. The University of Nairobi initiative appears to be ongoing, with institutional plans to regularise training sessions. AFIDEP's pilot workshop concluded in 2022, with intentions for scaleup noted but no publicly available evidence of subsequent implementation. IRMSDP formally ended in 2021, although the co-created toolkits and resources remain openly accessible and continue to be used by research management communities. The EACCR workshop last ran in June 2023, with training materials still available online.

Table 1: Peer-reviewed academic database findings

| Title | Countries or Region | Aim | Population Type | Intervention Type | Author-reported Challenges | Status |
|---|--|--|---|--|--|---|
| Towards Sustainable Research Capacity Development and Research Ownership for Academic Institutes in Developing Countries: The Malawian Research Support Centre Model (Gomo et al., 2011) | Malawi, Zimbabwe, Zambia, Uganda, Rwanda, Mozambique | Develop a model for sustainable research capacity development in Malawi applicable to other developing countries | Unit heads, statisticians, epidemiologists, data managers, IT specialists, CRA trainees, finance officers, secretaries, clinical research associates, trial coordinators, grant administrators, data officers, administrative assistants, senior academics, trained local staff, students, medical and research staff | Establishment of a Research Support Centre (RSC) providing training, research management systems, and institutional capacity strengthening | Weak institutional research systems; poor career pathways; high costs of complying with international standards; donor dependence; low initial awareness and uptake of RSC model | The RSC is active and continues to provide support to research projects / training to staff members according to their social media account: https://www.facebook.com/ResearchSupportCentre |
| Strengthening Institutional Research Administration in Uganda: A Case Study on Developing Collaborations among Academic and Research Institutions (Kakande et al., 2012) | Uganda | Strengthen research training capacity and administrative infrastructure via collaboration | Research administrators, coordinators, administrators | Training programme, professional framework, network development | Weak grant management systems; limited infrastructure; unrealistic faculty expectations; grant writing not recognised in academic evaluation | The NIH-funded IEARDA programme was time-limited and has concluded. Strengthened research administrative structures remain in place within participating institutions https://www.jcrc.org.ug/ |
| Developing African Novice Researchers into Career | Uganda | Build grant writing and management skills | Early career investigators, grant administration staff, | Training programme | Limited practical skills and resources; poor internet access; | The seed-funded training initiative has concluded; elements of the grant management processes have been |

| Title | Countries or Region | Aim | Population Type | Intervention Type | Author-reported Challenges | Status |
|---|--|--|---|--|---|--|
| Investigators: Innovative Options (Tumwijekye et al., 2013) | | | regulatory officers, medical officers, lab personnel, senior faculty, directors | | inadequate outcome measures; insufficient data capture | integrated into routine research administration at the partner organisations |
| The West African Health Organization's Experience in Improving the Health Research Environment in the ECOWAS Region (Aidam and Sombié, 2016) | Benin, Burkina Faso, Cape Verde, Côte d'Ivoire, The Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Sierra Leone, Senegal, Togo | To describe how WAHO implemented a research development program in the West African region to improve the research environment | Researchers, research managers, administrators, ethics officers, programme managers, IT technicians | Training programmes, network development, strategic partnerships | High staff turnover; weak institutional capacities; funding and infrastructure shortages; bureaucratic delays; leadership instability; internet and library limitations | The WAHO research development programme (2009–2013) has ended; WAHO and the HRWeb research governance platform remain active, but the specific programme phase is no longer running http://waho.healthresearchweb.org/ |
| Research Capacity Building Integrated into PHIT Projects: Leveraging Research and Research Funding to Build National Capacity | Ghana, Mozambique, Rwanda, Tanzania, Zambia | To evaluate the impact and effectiveness of research capacity building (RCB) activities integrated into the Population Health Implementation | Clinical and programmatic staff | Training programme, mentorship, infrastructure development | Reliance on external funding; competing workloads; publication barriers; limited mentorship; poor internet connectivity | The Doris Duke–funded PHIT partnerships have completed their funding cycle; several countries reported sustained research administration structures and practices established during the programme |

| Title | Countries or Region | Aim | Population Type | Intervention Type | Author-reported Challenges | Status |
|--|--|--|--|--|---|--|
| (Hedt-Gauthier et al., 2017) | | and Training (PHIT) projects in five African countries | | | | |
| Effective Project Management of a Pan-African Cancer Research Network: MADCaP (Odiaka et al., 2018) | Nigeria, Senegal, Ghana, South Africa | Standardise project management across cancer research centres | Project managers | Development and implementation of a project management toolkit (PMT) | Low participant eligibility; language barriers; strikes and supply delays; protocol non-compliance; database access issues | The MADCaP consortium remains active, and the Project Management Toolkit is openly available online for continued use across African cancer research networks https://www.madcapnetwork.org/post/project-manager-toolkit |
| Institutionalisation of Research Administration in Brazil: Some Evidences (Oliveira et al., 2019) | Brazil | To discuss the impact of RA activities on minimising transaction costs in research institutions and projects, and the potential impact of RA development and institutionalisation on STI in Brazil | Research administrators, research managers | Training programme, professional framework, network development (blended learning, workshops, online training, follow-up visits) | Budget constraints; increasing bureaucratic demands; limited researcher capacity; unfamiliarity with agency rules; low innovation environment | The BRAMA association remains active and delivers training and events aimed to RMAPs https://www.bramabrazil.org/ |
| Scaling up Professionalisation of Research Management in Southern Africa | South Africa, Botswana, Zimbabwe, Malawi | Develop a regionally relevant framework for | Research managers, administrators, deans, directors, senior managers | Professional framework (Competency Framework) | Resource constraints; inequitable institutional capacity; limited piloting; | The PCF remains openly accessible, and SARIMA association provide resources and training to RMAPs https://www.sarima.co.za/resources/ |

| Title | Countries or Region | Aim | Population Type | Intervention Type | Author-reported Challenges | Status |
|--|---|---|--|--|---|--|
| (Williamson et al., 2020) | | research management | | | narrow stakeholder representation | |
| How International Research Consortia Can Strengthen Organisations' Research Systems and Promote a Conducive Environment and Culture (Pulford et al., 2023) | UK, Sub-Saharan Africa | To collate practical examples of how international research consortia strengthened member organisations' research systems and cultures, especially in LMICs | Research support staff (technicians, managers, finance officers, IT staff, non-academic personnel) | Systems approach Training and mentoring programme | Limited funder guidance; underinvestment in support staff; lack of evaluation tools; hierarchical and cultural barriers; weak systems | The paper synthesises lessons from multiple consortia (2012–2022); individual consortia vary in status. Some of the systems strengthening guidance remain accessible, for example resources from DELTAS consortium: https://www.lstmed.ac.uk/research/centres-and-units/centre-for-capacity-research/deltas-%E2%80%93-learning-research-programme |
| Cancer Prevention and Control: Development and Evaluation of Project Management Training for Cancer Research in Sub-Saharan Africa (Jedy-Agba et al., 2024) | Nigeria, Botswana, Senegal, South Africa, Ghana | Improve project management skills in cancer research | Research managers, administrators, researchers, lab scientists, data managers, coordinators | Training programme | Need for skilled workforce; COVID-19 attendance barriers; persistent funding gaps; structural inequities in health research | Concluded study. There is evidence of available resources although registration is required to access: https://www.africancancerstars.org/resources/all |

CRA: Clinical Research Associate, RA: Research Administration, RMS: Research Management & Support, PCF: Professional Competency Framework, HRWeb – Health Research Web (online platform for research governance)

Table 2: Grey literature findings

| Programme Title | Provider or Organisation/Project | Year | Region | Delivery Format & Duration | Aim | Status |
|--|---|-----------|-----------------------------|--|---|--|
| International Research Management Staff Development Programme (IRMSDP) | Association of Research Managers and Administrators UK (ARMA) & African Academy of Sciences (AESAs) - under the Research Management Programme in Africa (ReMPro Africa) | 2020–2021 | Multi-country (UK & Africa) | Virtual, seven-month collaborative programme | Strengthen research management capacity and collaboration | Concluded in 2021. Resources and toolkits remain openly available https://arma.ac.uk/international-research-management-staff-development-programme/ |
| Training Research Support Staff to Achieve Scientific Success (AFIDEP) | African Institute for Development Policy (AFIDEP) in collaboration with IMPALA & LIGHT consortia | 2022 | UK & Africa | In-person, three-day pilot workshop | Reduce administrative burden on PIs; improve efficiency | Concluded in 2022; future scale-up planned but no evidence yet; no openly available resources |
| Research Management Training Workshop (EACCR) | East African Consortium for Clinical Research (EACCR) | 2023 | Regional (East Africa) | Hybrid, three-day workshop | Practical skills in grant writing, M&E, publication | Resource materials available online; training event concluded in 2023 Research Management Training workshop • East African Consortium for Clinical Research |

LMIC RMA Capacity Strengthening

| Programme Title | Provider or Organisation/Project | Year | Region | Delivery Format & Duration | Aim | Status |
|---|---|------|-----------------------|--|---|---|
| Capacity Building Training for Administrative Staff (University of Nairobi) | University of Nairobi (Office of Deputy Vice-Chancellor, Research, Innovation & Enterprise) | 2023 | Institutional (Kenya) | In-person, one-day workshop | Build capacity in research facilitation, IP protection, data management | Appears as an ongoing activity; plans for regularisation of training sessions; no openly available resources |
| Africa Research Management Capacity Strengthening (REMACS) | Science for Africa Foundation (SFA Foundation) | 2025 | Pan-African | Institutional engagement: duration not specified | Professionalise research management; develop standards | Active programme; expected outcomes include Good Research Management Practice (GRMP) implementation. The GRMP is openly available https://www.arso-oran.org/free-access-standards/ |

COMPARING THE SOURCES OF INFORMATION USING A FRAMEWORK APPROACH

The fifteen included interventions were coded into five categories (short-term training; embedded/long-term training; mentorship & peer support; professional frameworks; systems-level strengthening) using a binary present/absent approach. To complement this coding, Table 3 provides descriptive detail on the specific activities undertaken within each category, illustrating how these elements were operationalised across initiatives.

These categories frequently overlapped within individual programmes, reflecting the complex and interconnected nature of research management capacity strengthening in LMIC settings. Across the 15 initiatives, systems-level strengthening was documented in 11/15 initiatives; mentorship & peer support in 10/15; short-term training in 9/15; embedded/long-term training in 8/15; and professional frameworks, tools or standards in 5/15.

Table 3: Mapping of interventions to capacity-strengthening categories with descriptive implementation details

| Study | Short-Term Training | Embedded / Long-Term Training | Mentorship & Peer Support | Developed Professional Frameworks or Standards | Systems-Level |
|--------------------------|--|--|---|--|--|
| Gomo et al. (2011) | Short courses for research support staff on grant management and compliance | Three-year CRA training and on-the-job learning integrated into organisational roles, Train-the-Trainers model to cascade skills within institutional research offices | Mentorship for administrators through RSC model | Not reported | Established Research Support Centre with SOPs for grant submission, ethics review, and financial reporting |
| Kakande et al. (2012) | Grant writing and compliance workshops | Five-year development programme, including structured distance learning modules delivered by US NIH and a three-week residential training placement year development programme, including structured distance learning modules delivered by US NIH and a three-week residential training placement | Mentorship through RSC support structures | Not reported | Strengthen RSC operations and institutional compliance systems |
| Tumwijekye et al. (2013) | Multiple hands-on short workshops for grant administrators on NIH grant writing, budgeting, compliance | Not reported | One-to-one mentoring during workshops for RMA staff | Not reported | Created dedicated grant management offices and introduced SOPs for NIH compliance |

| Study | Short-Term Training | Embedded / Long-Term Training | Mentorship & Peer Support | Developed Professional Frameworks or Standards | Systems-Level |
|-----------------------------|---|---|---|--|--|
| Aidam & Sombié, (2016) | Workshops on ethics oversight and resource mobilisation | Scholarships for health research administrators to pursue postgraduate training | Regional collaboration via WAHRNET for admin staff | Not reported | Supported eight countries to draft national research policies; HRWeb platform for research governance |
| Hedt-Gauthier et al. (2017) | Not reported | Embedded training for research support staff in PHIT projects (grant management, budgeting, data systems) | Distance mentorship for administrators and finance officers on compliance and budgeting | Not reported | Strengthened administrative systems and grant compliance (created grant management offices, introduced SOPs for compliance monitoring) |
| Odiaka et al. (2018) | Not reported | Not reported | Not reported | Developed a Project Management Toolkit (PMT) for standardising processes | Consortium-level governance and harmonisation of project management practices |
| Oliveira et al. (2019) | Not reported | Blended learning on compliance, grant systems and financial reporting | Peer learning via BRAMA association | Not reported | Implemented institutional reforms, SOPS for grant and financial processes, and electronic submission systems to improve efficiency |

| Study | Short-Term Training | Embedded / Long-Term Training | Mentorship & Peer Support | Developed Professional Frameworks or Standards | Systems-Level |
|--|---|--|--|--|---|
| Williamson et al. (2020) | Not reported | Not reported | Not reported | Developed SARIMA Professional Competency Framework | Regional professionalisation strategy; career pathways |
| International Research Management Staff Development Programme (IRMSDP – ARMA & AESA, 2021) | Virtual workshops on grant writing, costing, contracts | Seven-month collaborative programme with team projects | Strong peer-to-peer learning; informal mentoring | Developed toolkits (TReMOR, SMARTLife, Competency Toolkit) | Multi-country collaboration; repository of resources; cultural exchange |
| Training Research Support Staff to Achieve Scientific Success (AFIDEP, 2022) | Three-day in-person workshop informed by SARIMA framework | Not reported | Coaching support during training | Not reported | Not reported |

| Study | Short-Term Training | Embedded / Long-Term Training | Mentorship & Peer Support | Developed Professional Frameworks or Standards | Systems-Level |
|---|--|--|---|--|--|
| Pulford et al. (2023) | Not reported | Embedded training for technical and administrative staff (finance, IT, grant management) | Peer mentoring and cross-organisational support for RMA roles via immersion visits and shared platforms | Not reported | Introduced inclusive management practices, resource sharing, policy engagement and harmonisation across partner institutions |
| Research Management Training Workshop (EACCR, 2023) | Three-day hybrid workshop on grant writing, M&E, publication | Not reported | Not reported | Not reported | Not reported |
| Capacity Building Training for Administrative Staff (University of Nairobi, 2023) | One-day in-person workshop on IP, data management, compliance | Not reported | Peer support implied via communication group | Not reported | Not reported |
| Jedy-Agba et al. (2024) | Four-day blended workshop for project officers and research managers on key elements of project management | Not reported | Not reported | Not reported | Not reported |

| Study | Short-Term Training | Embedded / Long-Term Training | Mentorship & Peer Support | Developed Professional Frameworks or Standards | Systems-Level |
|---|---------------------|--|---------------------------|---|---|
| Africa Research Management Capacity Strengthening (REMACS – SFA Foundation, 2025) | Not reported | Institutional engagement reported as 'ongoing', but duration not specified | Not reported | Developed Good Research Management Practice (GRMP) Standard | Pan-African systems-level approach; leadership, sustainability, harmonisation |

RSC – Research Support Centre, NIH – National Institutes of Health, MoH – Ministry of Health, WAHRNET – West African Health Research Network, NHRS – National Health Research System, HRWeb – Health Research Web (online platform for research governance), PHIT – Population Health Implementation and Training projects, SARIMA – Southern African Research and Innovation Management Association, PCF – Professional Competency Framework, RA – Research Administration, IT – Information Technology, REDCap – Research Electronic Data Capture (data management tool)

Short-Term Training

Short-term training was identified in nine initiatives and typically focused on grant administration, budgeting, compliance, project coordination, and data related tasks. These programmes usually consisted of intensive workshops lasting one to five days, targeting specific administrative and project management competencies. Examples include: a four-day blended workshop for project officers and research managers focusing on budgeting, communication, and REDCap use (Jedy-Agba et al., 2024); hands-on sessions for grant administrators in Uganda covering NIH grant writing, budgeting, and compliance (Tumwujukye et al., 2013); ethics oversight and resource mobilisation workshops for Ministry of Health research managers across West Africa (Aidam & Sombié, 2016); short courses delivered through the Research Support Centre model in Malawi (Gomo et al., 2011). Grey literature examples reinforce this pattern, including the EACCR three-day regional workshop on grant writing, M&E, data management, and dissemination (2023); the AFIDEP three-day training on administration, project management, and financial processes (2022); the University of Nairobi's 1-day workshop on IP, data management, and compliance (2023); and IRMSDP's virtual short course modules on costing, contracts, and grant development (ARMA & AESA, 2021).

Embedded or Long-Term Training

Eight initiatives incorporated embedded or long-term training. These programmes integrated structured learning into institutional roles or consortia, often supporting career progression and systemic change. Examples include: three-year Clinical Research Administration training combined with on-the-job learning and a Train-the-Trainers model within Malawi's Research Support Centre (Gomo et al., 2011); a five-year development programme combining NIH distance learning with a residential placement (Kakande et al., 2012); embedded training for administrative and finance staff within PHIT implementation projects, covering grant management, budgeting, and data systems (Hedt-Gauthier et al., 2017). A grey literature example was the seven-month IRMSDP programme, which combined training, team-based projects, and cross-institutional collaboration (ARMA & AESA, 2021).

Systems-Level Capacity Strengthening

Systems-level strengthening aimed at improving institutional governance and strengthening research management infrastructure was identified in eleven initiatives, making it the most frequently observed intervention type. These ranged from national level reforms, such as the development of research policies and adoption of a web-based portal (HRWeb) for ethics oversight (Aidam & Sombié, 2016), to organisational reforms such as establishing Research Support Centres with Standard Operating Procedures (SOPs) for grant and ethics processes (Gomo et al., 2011) and standardising project management practices across consortium sites (Odiaka et al., 2018). Systems level examples in grey literature include REMACS' development of the GRMP standard, and the University of Nairobi's institutional efforts to strengthen administrative systems.

Mentorship and Peer-to-Peer Support

Mentorship and peer learning were integrated into ten initiatives, often complementing training or consortium-based activities. Tumwijekye et al. (2013) paired grant administrators with experienced mentors during workshops, while Hedt-Gauthier et al. (2017) used distance mentorship to support administrators in navigating compliance requirements. Pulford et al. (2023) highlighted peer-to-peer learning and cross-organisational exchanges as mechanisms for strengthening institutional systems, using immersion visits and shared platforms to foster inclusive management practices. Grey literature examples include IRMSDP (ARMA & AESA, 2021), which embedded strong peer-to-peer learning within its collaborative model, and AFIDEP (2022), which provided coaching support during training sessions. The University of Nairobi (2023) established an administrator communication group to sustain peer support.

Professional Frameworks and Competency Models

Four initiatives addressed the formalisation of research management as a profession through structured frameworks and standards. Williamson et al. (2020) developed the SARIMA Professional Competency Framework (PCF), defining nine competency domains and three career levels (operational, management, leadership). Odiaka et al. (2018) introduced a Project Management Toolkit to standardise processes across a Pan-African cancer research network. Grey literature contributions include IRMSDP, which produced multiple toolkits (TRemOR, SMARTLife, Competency Toolkit) (ARMA & AESA, 2021), and REMACS' development of the GRMP standard to harmonise research management practices across Africa (SFA Foundation, 2025).

COMPETENCIES / SKILLS COVERAGE

The SARIMA PCF was developed through an extensive process involving multi-country focus groups, stakeholder reflection, surveys and iterative validation across Southern Africa, ensuring that its competency areas reflect the real-world demands, skills and professional expectations of research managers working in diverse and resource-constrained institutional settings.

Although originally designed for the Southern African region, evidence from the studies included in this review suggests that the framework is transferable to other LMIC settings. For example, Oliveira et al. (2019) describe how Brazil's BRAMA network adopted competency-based training and governance structures that closely mirror SARIMA's domains, demonstrating the framework's relevance beyond Africa. Several grey literature initiatives drew on SARIMA principles: the AFIDEP (2022) workshop explicitly used SARIMA domains to structure its curriculum, and IRMSDP (ARMA & AESA, 2021) produced toolkits aligned with SARIMA-defined competencies.

Given its African origin, growing uptake, and demonstrated applicability in other LMIC contexts, the SARIMA PCF provides a coherent and appropriate structure for mapping the competency coverage of the initiatives included in this review.

Table 4 summarises how the content of each included initiative maps to the SARIMA PCF and Figure 2 illustrates the aggregated findings.

Mapping the fifteen initiatives against the SARIMA PCF revealed clear patterns of concentrated strengths and persistent gaps across the nine competency domains.

The most consistently represented competencies were *Organisation and Delivery* and *Pre-award Funding*, where nearly all initiatives provided explicit, well-documented training or system strengthening (●). Several programmes, including Gomo et al. (2011), Tumwijukye et al. (2013), Jedy-Agba et al. (2024), and EACCR (2023), demonstrated robust operational support through structured grant management training, administrative system development, or project life cycle approaches.

Post-award Management and *Data and Information Management* showed moderate but uneven coverage, with strong examples in initiatives that incorporated digital tools, REDCap training, or shared reporting systems. However, several programmes provided only indirect or limited evidence of strengthening these competencies (◐), often through broader administrative reforms rather than targeting RMAPs.

In contrast, *Researcher Development* emerged as the least represented domain, with only the SARIMA Professional Competency Framework itself explicitly articulating this competency (●), and all other initiatives offering limited or no evidence (◐/○).

Coverage of *Planning, Strategy, and Policy Development* and *Research Uptake and Impact* was patchy, with clear evidence concentrated in system-oriented or consortium-based initiatives. Notable examples include Aidam & Sombié (2016), which supported national research policy development; REMACS (SFA Foundation, 2025), which embedded policy, governance, and impact standards within the GRMP framework; IRMSDP (ARMA & AESA, 2021), which produced an impact-focused communication toolkit; and EACCR (2023), which incorporated Theory of Change, indicator development, and impact pathways.

Partnerships and Collaboration displayed a split pattern: multi-country consortia such as Aidam & Sombié (2016), Hedt-Gauthier et al. (2017), Odiaka et al. (2018), Pulford et al. (2023), and IRMSDP (ARMA & AESA, 2021) consistently demonstrated clear competency coverage (●), often embedding collaboration mechanisms, cross-institutional learning, or harmonisation processes. In contrast, single-institution initiatives tended to show limited or no explicit partnership-management training (◐/○).

Table 4: Mapping of included initiatives to the SARIMA Professional Competency Framework

● = Clear evidence on explicit competency strengthening for RMAPs

◐ = Limited evidence or Implied / unclear whether RMAP-specific

○ = No evidence for RMAPs

| Initiative (Year, Region) | Organisation & Delivery | Planning, Strategy & Policy Development | Developing Researchers | Partnerships and Collaboration | Funding (Pre-Award) | Ethics | Managing Funded Research (Post-Award) | Data and Information Management | Uptake & Impact |
|-------------------------------|--|---|------------------------|--|--|--|--|---|-----------------|
| Gomo et al. (2011), Malawi | ● RSC established; structured research support systems; SOPs for grant submission, ethics review, financial reporting; training RSC staff. | ◐ RSC model aimed at institutional strengthening; unclear if RMAPs were directly trained in strategy / policy vs. researchers / leadership. | ○ | ◐ Regional collaboration implied; unclear if RMAPs were trained in partnership management. | ● Explicit training for grant management, compliance, budgeting for RMAPs. | ◐ RSC supported ethics review processes; unclear if RMAPs received ethics specific training vs. researchers / IRB members. | ● Advanced grant management training and project management / study coordination training to support comprehensive pre- and post-award grant management. | ● Training in data management (introductory and advanced) linked to the RSC's data management services and support for data managers and other support staff. | ○ |
| Kakande et al. (2012), Uganda | ● Strengthened RSC operations for administrators to manage research processes. | ◐ Collaboration structures developed; unclear if RMAPs were trained in policy development vs. | ○ | ● Explicit focus on developing collaborations among academic and | ● Grant writing and budgeting training for admin staff. | ○ | ◐ Strengthening administrative systems implies post-award support, but unclear if explicit | ○ | ○ |

| Initiative (Year, Region) | Organisation & Delivery | Planning, Strategy & Policy Development | Developing Researchers | Partnerships and Collaboration | Funding (Pre-Award) | Ethics | Managing Funded Research (Post-Award) | Data and Information Management | Uptake & Impact |
|---|--|--|--|--|--|---|---|---|--|
| | | institutional leadership. | | research institutions | | | training for RMAPs. | | |
| Tumwijekye et al. (2013), Uganda | <ul style="list-style-type: none"> Created dedicated grant management offices and formalised admin structures | <ul style="list-style-type: none"> institutional leadership. | <ul style="list-style-type: none"> Mixed cohort; unclear if RMAPs received researcher development related content. | <ul style="list-style-type: none"> No partnership management training for RMAPs. | <ul style="list-style-type: none"> NIH grant writing, budgeting, compliance workshops for grant administrators. | <ul style="list-style-type: none"> NIH compliance training included ethics and integrity requirements. | <ul style="list-style-type: none"> SOPs for NIH compliance monitoring and post-award administration for RMAPs. | <ul style="list-style-type: none"> Electronic registration systems (eRA Commons) implemented for grant tracking. | <ul style="list-style-type: none"> institutional leadership. |
| Aidam & Sombié (2016), West Africa | <ul style="list-style-type: none"> Strengthened institutional systems for research management within MoH | <ul style="list-style-type: none"> Supported eight countries to draft national research policies and plans | <ul style="list-style-type: none"> Scholarships for health research administrators to pursue postgraduate training. Unclear if focused on researcher-development competencies | <ul style="list-style-type: none"> WAHRNET launched to improve collaboration among research institutions. | <ul style="list-style-type: none"> Resource mobilisation training for research managers. | <ul style="list-style-type: none"> Ethics oversight training for MoH research managers. | <ul style="list-style-type: none"> Post-award monitoring and evaluation systems supported. | <ul style="list-style-type: none"> HRWeb platform introduced for research governance and data sharing. | <ul style="list-style-type: none"> Regional dissemination and policy engagement through WAHRNET; no RMAP-specific training. |
| Hedt-Gauthier et al. (2017), Multi-country Africa | <ul style="list-style-type: none"> Strengthened admin systems; created grant management offices; | <ul style="list-style-type: none"> Training aligned with national priorities; unclear if RMAPs trained in strategy development. | <ul style="list-style-type: none"> institutional leadership. | <ul style="list-style-type: none"> Collaboration across PHIT sites; unclear if partnership management | <ul style="list-style-type: none"> Budgeting and compliance training for research managers and | <ul style="list-style-type: none"> Compliance monitoring included ethics elements. | <ul style="list-style-type: none"> Post-award grant management integrated into project workflows. | <ul style="list-style-type: none"> Training on data systems and administrative data use for reporting. | <ul style="list-style-type: none"> institutional leadership. |

LMIC RMA Capacity Strengthening

| Initiative (Year, Region) | Organisation & Delivery | Planning, Strategy & Policy Development | Developing Researchers | Partnerships and Collaboration | Funding (Pre-Award) | Ethics | Managing Funded Research (Post-Award) | Data and Information Management | Uptake & Impact |
|---|--|--|--|--|--|--|---|--|---|
| | embedded RMAP roles. | | | training for RMAPs. | finance officers. | | | | |
| Odiaka et al. (2018), Pan-African | <ul style="list-style-type: none"> PM Toolkit standardised processes and clarified roles for project managers. | <ul style="list-style-type: none"> Governance frameworks for project planning and management included in PMT. | ○ | <ul style="list-style-type: none"> Consortium-level coordination and harmonisation of project management practices. | <ul style="list-style-type: none"> Budgeting and costing guidance embedded in PM Toolkit. | ○ | <ul style="list-style-type: none"> Strong focus on managing funded multi-country projects (timelines, risk, protocol adherence). | <ul style="list-style-type: none"> Some guidance on managing project information; database access issues addressed. | <ul style="list-style-type: none"> PM Toolkit includes dissemination planning and reporting templates. |
| Oliveira et al. (2019), Brazil | <ul style="list-style-type: none"> Institutionalisation of research administration offices and SOPs for compliance. | <ul style="list-style-type: none"> Policy frameworks for RA governance developed. | <ul style="list-style-type: none"> Training enabled RMAPs to better support researchers. | <ul style="list-style-type: none"> BRAMA association fosters peer learning and collaboration among RMAPs. | <ul style="list-style-type: none"> Blended learning on compliance, grant systems, pre-award financial planning. | ○ | <ul style="list-style-type: none"> Strong focus on financial reporting, transaction cost reduction, managing funded projects. | <ul style="list-style-type: none"> Electronic submission systems and data platforms introduced. | <ul style="list-style-type: none"> Impact reporting integrated into RA systems for accountability. |
| Williamson et al. (2020), Southern Africa | <ul style="list-style-type: none"> Professional Competency Framework defines structures, roles, expectations for RMAPs. | <ul style="list-style-type: none"> Framework informs institutional / regional RM strategy and policy. | <ul style="list-style-type: none"> Researcher development competency embedded in PCF for RMAPs. | <ul style="list-style-type: none"> Partnerships and collaboration competency included in PCF. | <ul style="list-style-type: none"> Funding competency included in PCF for RMAPs. | <ul style="list-style-type: none"> Ethics and integrity competency included in PCF. | <ul style="list-style-type: none"> Managing funded research competency included in PCF. | <ul style="list-style-type: none"> Research data and information management competency included in PCF. | <ul style="list-style-type: none"> Research uptake and impact competency included in PCF. |

| Initiative (Year, Region) | Organisation & Delivery | Planning, Strategy & Policy Development | Developing Researchers | Partnerships and Collaboration | Funding (Pre-Award) | Ethics | Managing Funded Research (Post-Award) | Data and Information Management | Uptake & Impact |
|---|---|---|------------------------|--|---|--|--|--|--|
| Pulford et al. (2023), Sub-Saharan Africa | <ul style="list-style-type: none"> ● Inclusive management practices and capacity strengthening for research managers. | <ul style="list-style-type: none"> ● Policy harmonisation and governance frameworks across consortia. | ○ | <ul style="list-style-type: none"> ● Cross-organisational mentoring and immersion visits for RMAs. | <ul style="list-style-type: none"> ● Funding compliance and budgeting support provided to admin staff. | ○ | <ul style="list-style-type: none"> ● Shared systems for managing funded research across partner institutions. | <ul style="list-style-type: none"> ● Data sharing platforms and reporting systems established. | <ul style="list-style-type: none"> ● Policy engagement and dissemination strategies embedded in consortia activities. |
| Jedy-Agba et al. (2024), Sub-Saharan Africa | <ul style="list-style-type: none"> ● Project management training for research managers in cancer research. | <ul style="list-style-type: none"> ● Modules on project planning and governance included in training. | ○ | <ul style="list-style-type: none"> ● Training on communication. Multi-country collaboration for administrative capacity building. | <ul style="list-style-type: none"> ● Budgeting and costing sessions included in PM training. | <ul style="list-style-type: none"> ● Compliance and ethics training for cancer research projects. | <ul style="list-style-type: none"> ● Post-award project management and reporting covered in training. | <ul style="list-style-type: none"> ● Data Management / REDCap training. | <ul style="list-style-type: none"> ● Dissemination planning included in PM training curriculum. |
| EACCR Workshop (2023), East Africa | <ul style="list-style-type: none"> ● Comprehensive sessions on research management cycle, quality management, implementation planning, and close-out for coordinators, trial managers, | <ul style="list-style-type: none"> ● Dedicated modules on Theory of Change, indicator development, risk assessment, resource planning, and strategic alignment of research activities. | ○ | <ul style="list-style-type: none"> ● Stakeholder identification; no partnership governance training. | <ul style="list-style-type: none"> ● Grant negotiation, budgeting, proposal development, call response management. | <ul style="list-style-type: none"> ● Compliance and quality assurance referenced. | <ul style="list-style-type: none"> ● M&E frameworks, contract negotiation, financial guidelines, risk mitigation, implementation oversight, reporting, and close-out. | <ul style="list-style-type: none"> ● Research data management, data quality, indicator tracking, administrative data for reporting. | <ul style="list-style-type: none"> ● Dissemination, communication planning, pathways to impact, impact measurement. |

LMIC RMA Capacity Strengthening

| Initiative (Year, Region) | Organisation & Delivery | Planning, Strategy & Policy Development | Developing Researchers | Partnerships and Collaboration | Funding (Pre-Award) | Ethics | Managing Funded Research (Post-Award) | Data and Information Management | Uptake & Impact |
|-------------------------------------|--|---|------------------------|---|--|---|--|---|---|
| | administrators, and finance. | | | | | | | | |
| IRMSDP (2020–21), Pan-African & UK | <ul style="list-style-type: none"> Strengthened research support functions; project lifecycle training; development of toolkits for RMAPs. | <ul style="list-style-type: none"> Some teams addressed institutional processes; no explicit strategy/policy curriculum. | ○ | <ul style="list-style-type: none"> Strong emphasis on equitable partnerships, cross-cultural collaboration, international team-based projects. | <ul style="list-style-type: none"> Pre-award glossary, costing/pricing tools, proposal development resources. | <ul style="list-style-type: none"> Ethics appears in glossary and compliance discussions; not a dedicated training area. | <ul style="list-style-type: none"> Cradle to Grave series covered implementation, reporting, closeout, risk management. Post-award management resources provided in toolkits. | <ul style="list-style-type: none"> Some teams addressed data management planning; not a core programme focus. | <ul style="list-style-type: none"> “Research for Impact” toolkit; impact pathways and engagement guidance. |
| University of Nairobi (2023), Kenya | <ul style="list-style-type: none"> Training for administrators on research processes, roles, and support functions; emphasis on strengthening research culture. | <ul style="list-style-type: none"> Discussion of departmental mechanisms and institutional research agenda; no explicit strategy training. | ○ | <ul style="list-style-type: none"> Formation of administrator communication group implies collaboration; no formal partnership training. | <ul style="list-style-type: none"> Identifying and disseminating grant opportunities mentioned; no structured pre-award curriculum. | <ul style="list-style-type: none"> Dedicated session on IP rights, protection, and commercialisation responsibilities. | <ul style="list-style-type: none"> Administrative process streamlining and reporting discussed; no explicit post-award training modules. | <ul style="list-style-type: none"> Strong focus on research data management, data collection, preservation, reporting, and evidence-based decision making. | <ul style="list-style-type: none"> Emphasis on research culture and impact; no explicit uptake training. |
| AFIDEP Training | <ul style="list-style-type: none"> Training for research administrators, | ○ | ○ | <ul style="list-style-type: none"> Discussions on bridging gaps between | <ul style="list-style-type: none"> Budgeting, procurement, diary | <ul style="list-style-type: none"> Safeguarding and compliance discussed; not a | <ul style="list-style-type: none"> Project management, M&E, log | <ul style="list-style-type: none"> Data management and reporting | <ul style="list-style-type: none"> Communication challenges and |

| Initiative (Year, Region) | Organisation & Delivery | Planning, Strategy & Policy Development | Developing Researchers | Partnerships and Collaboration | Funding (Pre-Award) | Ethics | Managing Funded Research (Post-Award) | Data and Information Management | Uptake & Impact |
|----------------------------|---|--|------------------------|--|--|--|---|--|---|
| (2022), Kenya/Malawi | managers, and finance officers on roles across the research lifecycle. | | | institutions; not formal partnership training. | management, travel logistics, and pre-award administrative support. | dedicated ethics module. | frames, Gantt charts, managing competing projects. | guidance included in training. | impact measurement discussed; not structured uptake training. |
| REMACS (2025), Pan-African | <ul style="list-style-type: none"> GRMP standard developed to professionalise research management offices. Programme aims to strengthen institutional research management systems. | <ul style="list-style-type: none"> Institutional policy frameworks for RA systems embedded in GRMP. | ○ | <ul style="list-style-type: none"> Strong emphasis on networks, communities of practice, and cross-institutional collaboration. | <ul style="list-style-type: none"> Funding compliance and optimisation strategies integrated into GRMP. | <ul style="list-style-type: none"> Ethics and integrity requirements embedded in GRMP standard. | <ul style="list-style-type: none"> Post-award management standards included in GRMP. | <ul style="list-style-type: none"> Data governance and reporting standards defined in GRMP. | <ul style="list-style-type: none"> Impact and uptake strategies incorporated into GRMP standard. |

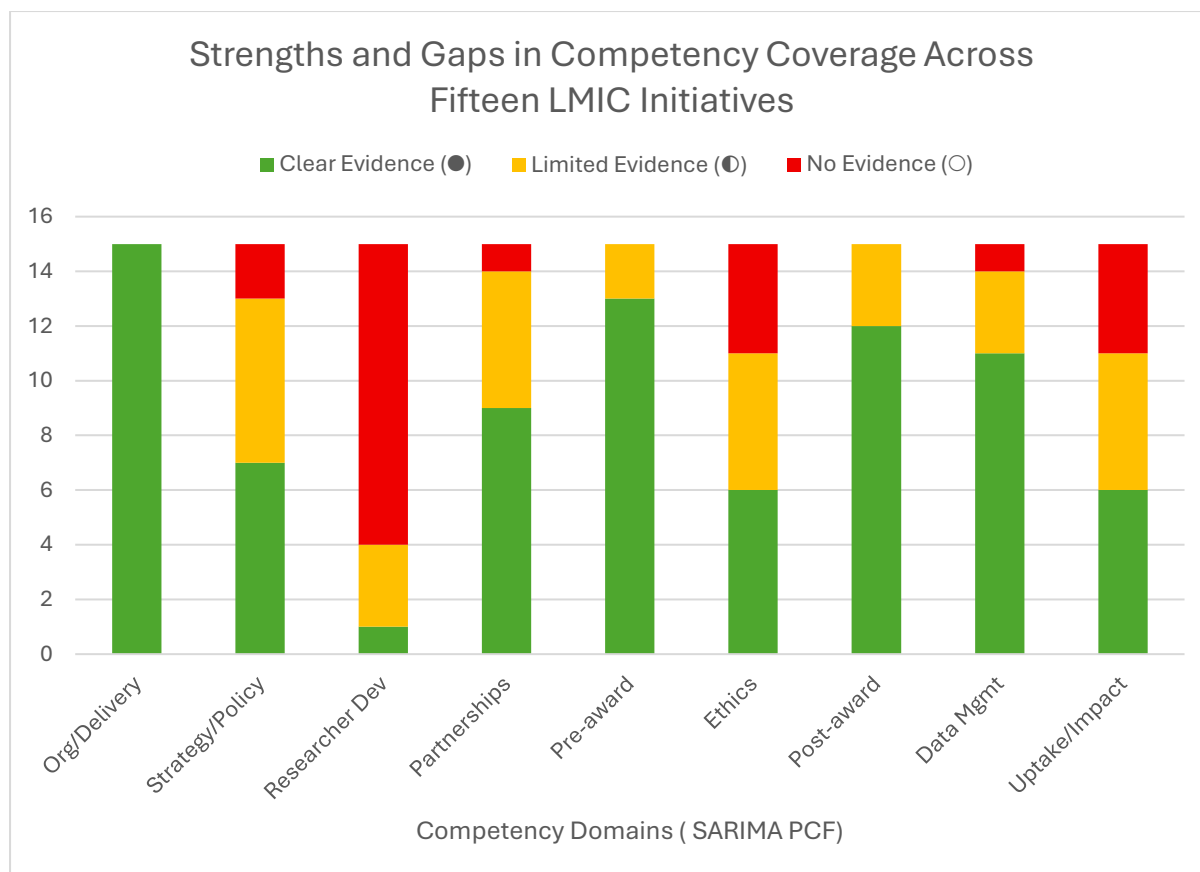


Figure 2: Strengths and gaps in competency coverage across included initiatives

EVALUATION

Across the fifteen initiatives, seven reported an evaluation of outcomes relevant to RMAPs, although the depth and rigour of these assessments varied considerably. For example, Tumwijekye et al. (2013) demonstrated both individual- and institutional-level change through improved NIH grant success and strengthened compliance systems measured using grant-success metrics and process audits. Jedy-Agba et al. (2024) reported individual-level gains in project management and REDCap skills using structured pre/post assessments. Similarly, Aidam & Sombié (2016) documented institutional and system-level outcomes through milestone tracking and retrospective triangulation, and IRMSDP (ARMA & AESA, 2021) evidenced individual and institutional improvements via participant feedback and the production and uptake of institutional toolkits. In contrast, eight initiatives described positive outcomes but did not report systematic evaluation or specify whether changes occurred at the individual, institutional, or system level.

Table 5 summarises these findings, documenting for each initiative the outcomes reported, the level at which the outcome was observed, and the evaluation method used, if any. The table illustrates considerable heterogeneity in evaluation practices across the evidence base and highlights the limited application of structured, competency-aligned assessment approaches.

Table 5: Summary of evaluation evidence across included initiatives

| Initiative (Year, Region) | Reported Outcomes | Outcome level | Evaluation Method |
|---|---|------------------------------|---|
| Gomo et al. (2011), Malawi | Established RSC; SOPs for grant submission; improved compliance systems | Not specified | No formal evaluation reported (descriptive account of changes) |
| Kakande et al. (2012), Uganda | Strengthened RSC operations; improved grant processing efficiency | Not specified | No formal evaluation reported (descriptive account of changes) |
| Tumwijekye et al. (2013), Uganda | Increased NIH grant success; improved compliance and reporting | Individual + Institutional | Grant success metrics and compliance audits (mapped to Kirkpatrick levels) |
| Aidam & Sombié (2016), West Africa | National research policies drafted; institutions improved governance and ethics oversight | Institutional + System-level | Retrospective review using triangulation of activity reports, independent evaluation, and authors' experiences; structured milestone tracking for policy adoption and HRWeb utilisation |
| Hedt-Gauthier et al. (2017), Multi-country Africa | Embedded admin roles; improved grant compliance systems | Not specified | No formal evaluation reported (descriptive account of changes) |
| Odiaka et al. (2018), Pan-African | PM Toolkit adoption; harmonised project management processes | Not specified | No formal evaluation reported (implementation description) |

LMIC RMA Capacity Strengthening

| Initiative (Year, Region) | Reported Outcomes | Outcome level | Evaluation Method |
|--|---|----------------------------|--|
| Oliveira et al. (2019), Brazil | Institutionalisation of RA offices; improved compliance | Institutional | No formal evaluation reported (descriptive account of changes) |
| Williamson et al. (2020), Southern Africa | SARIMA PCF adoption; professionalisation strategy initiated | Not specified | No formal evaluation reported (framework development paper) |
| IRMSDP (2020–21) (ARMA & AESA, 2021), Pan-African & UK | Developed toolkits; improved collaboration skills, increased confidence | Individual + Institutional | Participant feedback; tracking of team outputs |
| AFIDEP (2022), Kenya/Malawi | Strengthened admin capacity in budgeting and compliance | Individual | Anonymous feedback after each session; end-of-training survey; planned impact assessment |
| Pulford et al. (2023), Sub-Saharan Africa | Inclusive management practices; resource sharing | Institutional | No formal evaluation reported (descriptive account of organisational change) |
| EACCR (2023), East Africa | Enhanced grant writing and compliance skills | Individual | Participant feedback only (limited information) |
| University of Nairobi (2023), Kenya | Improved admin knowledge on IP and compliance | Individual (implied) | No formal evaluation reported (descriptive account of changes) |
| Jedy-Agba et al. (2024), Sub-Saharan Africa | Improved project management skills; REDCap use | Individual | Pre/post training assessments |
| REMACS (2025), Pan-African | GRMP standard developed; career pathways initiated | Institutional | No evaluation reported (early-stage programme description) |

REPORTED CHALLENGES

Across the fifteen initiatives, several recurring challenges were reported, reflecting the structural and operational constraints that shape research management capacity in

LMIC settings. A common theme was the limited availability of skilled research management staff, which affected both the delivery and sustainability of capacity strengthening efforts. Initiatives such as those described by Gomo et al. (2011), Kakande et al. (2012), and Hedt-Gauthier et al. (2017), highlighted the difficulty of embedding or expanding research support functions within institutions that lacked established administrative structures, consistent staffing, or clear role definitions. This was compounded by high workloads, competing responsibilities, and the absence of formalised career pathways, which made it challenging for RMAPs to fully engage in training or apply new skills.

Another prominent challenge concerned institutional systems and governance. Initiatives such as Aidam & Sombié (2016), Odiaka et al. (2018), and Pulford et al. (2023) noted fragmented or outdated administrative processes, limited harmonisation across departments or partner institutions, and weak policy environments. These systemic constraints often slowed implementation, reduced the uptake of new tools or frameworks, and limited the potential for institutionalisation.

Resource constraints were another recurrent barrier. Initiatives described insufficient funding for administrative roles, reliance on external funders, time-limited budgets, and restricted access to digital tools or data systems. In some instances, organisations lacked the infrastructure required to support effective research governance, compliance and routine administrative processes, undermining both implementation and long-term sustainability. These challenges were particularly acute for initiatives seeking to introduce new technologies, data systems or harmonised reporting processes.

A further set of challenges related to cross-institutional collaboration and coordination. Multi-country initiatives such as IRMSDP, EACCR, and the Pan-African consortia described by Pulford et al. (2023) reported difficulties aligning expectations, navigating differing institutional policies, and maintaining communication across geographically dispersed teams. These challenges affected the consistency of training delivery, the adoption of shared tools, and the ability to sustain collaborative outputs.

Finally, several initiatives noted the lack of robust monitoring and evaluation systems, which limited their ability to track progress, demonstrate impact, or refine their approaches over time.

DISCUSSION

This scoping review provides a consolidated and structured overview of how capacity strengthening for RMAPs is currently conceptualised, implemented and evaluated within LMIC research systems. Rather than simply cataloguing initiatives, the findings reveal underlying assumptions about the role of RMAPs, the purposes of capacity strengthening and the conditions under which RMA is valued and invested in.

Across 15 included initiatives implemented between 2011 and 2025, the findings reflect a growing but uneven landscape of support for research management capacity, characterised by strong emphasis on operational competencies, limited attention to

strategic and developmental domains, and persistent structural barriers that constrain the professionalisation of RMAPs. Importantly, this pattern reflects how research management capacity is positioned within wider research systems and funding architectures, rather than indicating a lack of ambition or capability among RMAPs themselves.

Across the included initiatives, a consistent set of structural challenges emerged; comparable issues were also apparent in the broader body of literature reviewed at full-text stage but not meeting the inclusion criteria. Funding and human resource constraints were repeatedly reported across the majority of initiatives, with many operating in contexts characterised by under-funding, limited or absent core institutional research budgets, and heavy reliance on short-term external donor funding. These conditions constrained the scale, duration, and sustainability of capacity strengthening efforts and limited opportunities for institutional embedding.

Even where training or systems reform occurred, retaining skilled RMAPs and supporting their ongoing development remained difficult in the absence of recognised career pathways, protected roles, or mentoring structures. In addition, poor coordination across partners, siloed operations, and limited mechanisms for shared learning or joint planning were common challenges, particularly in multi-institutional or consortium-based contexts. These issues were often compounded by weak institutional support, unclear policies, and limited accountability structures for research management functions.

GEOGRAPHIC DISTRIBUTION

Most identified interventions were concentrated in sub-Saharan Africa, with a single example from Latin America (Brazil), and none from Asia, the Pacific or the Middle East. These geographic gaps reflect broader patterns in the research management and research capacity strengthening literature. The lack of published evidence from these settings suggests either limited investment in research management capacity or, equally plausibly, under documentation of existing efforts. For example, the Malaysia Association of Research Managers and Administrators (MYRMA, <https://myrma.org/>) represents an active community of practice that provides networking, peer support, and professional engagement opportunities for research managers across Malaysia. However, MYRMA's activities are not documented as discrete, evaluable capacity strengthening initiatives in the published or grey literature and therefore could not be included in this review. This example illustrates a broader challenge: in some regions, research management capacity strengthening may occur primarily through professional associations, informal networks, or institution internal programmes that are not routinely documented as discrete, evaluable initiatives. The geographic gaps identified in this review may therefore reflect under documentation rather than a true absence of capacity strengthening activity, underscoring the need for more systematic mapping and reporting in these regions. Addressing these gaps is essential for global equity and for ensuring that emerging research systems are supported by robust administrative

and managerial structures capable of sustaining high quality, ethical, and impactful research.

ALIGNMENT OF INTERVENTIONS

When mapped against the SARIMA PCF, the interventions identified in this review align strongly with the operational domains of research management, particularly *Organisation and Delivery*, *Pre-award*, *Post-award*, and *Data and Information Management*. These domains correspond to the day-to-day functions that RMAPs in LMICs frequently identify as areas of low confidence, including budgeting, compliance, project coordination, and data governance. Initiatives such as the Malawian Research Support Centre (Gomo et al., 2011), the Uganda ORD model (Kakande et al., 2012), and the PHIT projects (Hedt-Gauthier et al., 2017) directly addressed these needs through structured training, embedded learning, and systems strengthening. Similarly, the MADCaP Project Management Toolkit (Odiaka et al., 2018) and the AFIDEP workshop (2022) provided practical tools and workflows that respond to operational gaps. The prominence of the operational domains suggests that capacity strengthening efforts are frequently designed to address immediate functional risks, such as grant compliance, financial accountability and project delivery.

However, alignment is far weaker for the strategic and developmental domains of the PCF, including *Planning and Policy Development*, *Researcher Development*, *Partnerships and Collaboration*, and *Research Uptake and Impact*. These domains are essential for positioning RMAPs as strategic actors within research systems, yet they were consistently under-represented across initiatives. Only a small number of programmes, such as the SARIMA PCF (Williamson et al., 2020), REMACS (SFA Foundation, 2025), and elements of the WAHO regional programme (Aidam & Sombié, 2016), explicitly engaged with strategic competencies, leadership, or institutional governance. This imbalance suggests that current interventions continue to conceptualise RMAPs primarily as operational support staff rather than as professionals with influence over institutional strategy, research culture, and pathways to impact.

PROFESSIONALISATION AND CAREER PATHWAYS

Across the studies reviewed, there is clear recognition of RMA as a distinct professional domain. Initiatives such as the SARIMA PCF and the GRMP standard represent important steps toward formalising roles, expectations, and competencies. However, these frameworks are not yet universally adopted, and career progression pathways for RMAPs remain inconsistent across institutions and regions. The ongoing European ROADMAP project (“RM ROADMAP Project Home,” 2025), expected to deliver competency frameworks and accreditation pathways by 2026–2027, may help address these gaps by providing structured resources and global benchmarks. Yet without parallel investment in LMIC-specific professionalisation mechanisms, disparities in recognition, remuneration, and career mobility are likely to persist.

Evidence from the wider literature reinforces the importance of explicitly recognising RMAPs as a core workforce within research systems. A Nigerian study examining training barriers and strategies for mid-level research personnel, including research coordinators (Ezeanolue et al., 2019), emphasised that these roles are central to the effective functioning of research programmes but are frequently marginalised through the absence of formal career pathways, structured training curricula, and protected funding. Participants identified inadequate mentorship, weak institutional support, and chronic under-investment as key constraints limiting both capacity development and retention of research support staff. These observations align closely with patterns identified across the included initiatives and underscore the advancing RMAP professionalisation requires attention not only to skill development, but also to career structures, funding models, and institutional policies that legitimise and sustain research management roles within LMIC systems.

Further insight is provided by a critical analysis of management research in emerging economies (Venkateswaran & Ojha, 2017) which suggest that dominant, internationally-derived research paradigms can marginalise locally-grounded roles and practices. Within such systems, research management labour is often positioned as technical or ancillary, rather than as a strategic component of knowledge production. Where research systems prioritise externally defined standards of rigour and scholarly productivity, attention to research management as a professional workforce—requiring dedicated training, career progression, and institutional authority—may be deprioritised. This perspective complements the present review by indicating that advancing RMAP professionalisation requires not only training and frameworks, but also shifts in how research systems conceptualise value, expertise, and contribution within LMIC contexts.

EFFECTIVENESS AND EVALUATION

Several included studies lacked formal evaluation frameworks, limiting the ability to draw robust conclusions about effectiveness. Where evaluation data were available, interpretation was restricted to outcomes clearly linked to RMAPs. In some cases, RMAPs were grouped with researchers or other professional roles, making it difficult to isolate findings specific to this population. For example, Pulford et al. (2023) synthesised real-world examples from multiple international consortia and provided rich qualitative insights into organisational change, but the diversity of contexts makes direct comparison with other studies challenging.

While some initiatives reported measurable outcomes, such as improved grant success rates or enhanced project management skills, most evaluations focused on institutional outputs. In cases where individual competency development was evaluated, outcomes were positive and sustained. For example, the blended four-day workshop described by Jedy-Agba et al. (2024) demonstrated a 16.6% improvement in project management knowledge immediately post training, with retention at one year follow up (80.8% vs. 70.8% pre-training).

The limited evaluation evidence could be interpreted in light of how RMAP capacity strengthening is typically implemented. Many initiatives are embedded within broader institutional or consortium-level programmes, making it difficult to isolate outcomes attributable specifically to RMAP-focused activities, particularly in the absence of clearly articulated role definitions. Developing and applying competency-aligned indicators may provide a more appropriate basis for evaluating RMAP-focused capacity strengthening in future work.

SUSTAINABILITY CHALLENGES

A recurring theme across initiatives was dependency on project-specific funding, with limited evidence of integration into institutional human resource systems or long-term financing strategies. This reliance on short-term projects raises concerns about sustainability and the risk of capacity erosion once funding ends. Examples such as the Malawian RSC (Gomo et al., 2011) demonstrate that sustainability can be enhanced through income generation and phased institutionalisation. For example, through a Train the Trainer approach and income generation strategies such as trial monitoring services and course fees, which enabled the centre to recover 11% of its operating costs by year three. Similarly, Uganda's ORD model demonstrates the value of embedding research governance structures within existing institutional systems. Nonetheless, most initiatives did not articulate clear sustainability plans, highlighting a persistent vulnerability in research management capacity strengthening efforts. These findings highlight that sustainability in RMA capacity strengthening depends not only on programme design, but also on institutional financing models, governance arrangements, and long-term workforce planning.

COLLABORATION AND COMMUNITIES OF PRACTICE

Regional and international collaboration emerged as a key enabler of capacity strengthening. A consistent theme across the initiatives included in this review is the central role of peer support, mentoring, and collaborative learning in strengthening research management capacity. Several programmes explicitly highlighted that RMAPs benefit most when they are embedded in communities of practice that enable shared problem solving, mutual learning, and ongoing professional support. For example, the Malawian Research Support Centre model (Gomo et al., 2011) incorporated mentorship and peer learning structures that helped administrators consolidate skills and sustain institutional practices. The Uganda IEARDA initiative (Kakande et al., 2012) similarly emphasised mentorship and collaborative learning as essential components of strengthening grant management systems. Regional programmes such as WAHO's research development initiative (Aidam & Sombié, 2016) and the PHIT partnerships (Hedt-Gauthier et al., 2017) demonstrated that cross-institutional collaboration fosters shared standards, harmonised processes, and collective problem solving across countries. More recent initiatives, including IRMSDP (ARMA & AESA, 2021), which was explicitly built around peer-to-peer exchange and collaborative project work, and REMACS (SFA Foundation, 2025), which promotes continental networks and the GRMP

standard, reinforce the value of regional and international communities of practice for sustaining capacity gains. This pattern aligns with broader evidence on the value of communities of practice in sustaining research capacity strengthening efforts. For example, the UKCDR and ESSENCE Good Practice Document (ESSENCE on Health Research & UKCDR, 2022) emphasises that sustainable capacity strengthening requires long-term partnerships, peer learning and communities of practice, rather than isolated training events.

Strengthening and formalising such communities of practice, whether through regional associations like SARIMA and BRAMA, consortia-based networks, or institutional partnerships, should be a priority for funders and institutions seeking to build resilient research support systems in LMICs.

STRENGTHS AND LIMITATIONS

A key strength of this scoping review is its comprehensive and systematic approach. It followed a recognised scoping review framework and adhered to PRISMA-ScR reporting guidelines, ensuring transparency and reproducibility. The inclusion of both peer-reviewed and grey literature broadened the evidence base and captured initiatives that may not be indexed in academic databases, a critical consideration in a field where many programmes are documented only through institutional reports or online materials.

The screening of a very large volume of abstracts combined with a structured multi-reviewer process, enhanced consistency and reduced selection bias. Furthermore, mapping interventions against competency frameworks and categorising initiatives by type, delivery format, and evaluation approach provided a nuanced understanding of the landscape and highlighted critical gaps for future research.

This review also has several methodological limitations. First, although database and grey literature searches were systematic and extensive, relevant initiatives may have been missed due to limited public documentation, inconsistent terminology, or the absence of evaluable programme descriptions. This is likely to have disproportionately affected initiatives delivered through informal, institution-based, or professional association activities.

Second, the review was limited to English language sources, which may have resulted in the exclusion of relevant initiatives reported in other languages. Future research would benefit from targeted mapping of research management initiatives documented in languages other than English. Additionally, the grey literature sources may be subject to reporting bias, with successful or well-resourced initiatives more likely to be documented than unsuccessful or short-lived efforts.

Third, the review did not examine university curricula or higher education programme catalogues to identify formal degree programmes or accredited training pathways in RMA, which may represent an additional avenue for capacity strengthening. These limitations suggest that the landscape of RMAP capacity strengthening initiatives may

be broader than what is captured here, underscoring the need for continued mapping and documentation in this emerging field.

CONCLUSION

This scoping review synthesised evidence from fifteen initiatives implemented between 2011 and 2025 to examine how research management and administration capacity is being strengthened in LMICs. The findings illustrate a growing but uneven landscape of support, characterised by strong emphasis on operational competencies and systems level improvements, but comparatively limited development of strategic and leadership domains.

This imbalance reflects wider structural constraints affecting RMAPs in LMICs, including limited staffing, unclear role expectations and the absence of formalised career pathways. Professionalisation therefore remains uneven not solely due to lack of frameworks or guidance, but because initiatives are insufficiently embedded within institutional human resource systems capable of sustaining career progression, retention and professional recognition.

Geographically, most documented initiatives originated in sub-Saharan Africa, with minimal representation from Latin America and none from Asia, the Pacific or the Middle East. This pattern likely reflects under documentation rather than a true absence of activity. Improving the visibility and reporting of RMA initiatives across diverse LMIC contexts is essential for supporting equity and enabling cross-regional learning.

Sustainability emerged as a persistent concern, with many initiatives dependent on short-term external funding and lacking clear strategies for institutional integration. However, several initiatives have maintained openly accessible resources that remain in use.

Across the evidence base, mentorship, peer learning and communities of practice consistently emerged as critical enablers of sustained capacity strengthening, collaboration and professional identity formation.

More broadly, the findings underscore the need for institutions and funders to move beyond isolated training interventions and invest in sustained, competency-based development pathways, mentorship structures, and career progression mechanisms that recognise RMAPs as essential contributors to research quality, governance, and equity in LMIC research systems.

IMPLICATIONS FOR PRACTICE

- A predominance of systems-level activities in the reviewed initiatives indicates that many programmes prioritise organisational processes, governance, and infrastructure as central components of capacity strengthening. While essential, these efforts require parallel investment in people, roles, and career structures to translate system reform into sustained capability.

- Operational competencies, particularly pre-award, post-award, data management, and project coordination, are well represented in the evidence base. In contrast, strategic competencies such as policy development, partnership management, and research uptake are less frequently documented, reflecting both structural constraints and the operational focus of many funder-driven programmes. Future programmes should incorporate strategic, leadership and policy-related competencies to strengthen RMAPs' ability to contribute beyond operational tasks.
- Documentation of sustainability mechanisms and HR integration is limited in the reviewed materials, although a few initiatives provide examples of institutionalisation strategies, including income generation, governance reform, and embedded training models. Future interventions should include explicit sustainability plans that address institutionalisation, financing and long-term staffing.
- Mentorship and networks are commonly used adjuncts to training and systems reform, but descriptions of their structure, resourcing, and outcomes are variable. Their potential as scalable, context appropriate mechanisms for ongoing professional development remains underexplored.
- Formal professional frameworks appear in a minority of initiatives, indicating an opportunity for wider adoption and adaptation of competency models to local contexts.
- RMAPs face a fragmented development landscape, with uneven access to high-quality resources. A curated, regularly updated repository of training materials and tools would support equitable access and strengthen early-career development.

IMPLICATIONS FOR RESEARCH

- Evaluation practices are heterogeneous and often limited to short-term outputs or participant feedback. There is little published evidence on long-term competency retention, institutional performance, or the comparative effectiveness of different intervention models. This highlights the need for future studies to embed robust, competency-aligned evaluation frameworks that can reliably assess individual change.
- Strategic competencies remain under-represented across initiatives. Research should explore how RMAPs develop and enact leadership, policy influence, strategic planning and researcher development skills in LMIC contexts.
- Geographic gaps in the evidence base, particularly in Asia, the Pacific and the Middle East highlight the need for mapping and documenting initiatives beyond Africa and Latin America. Attention should be given to non-English findings, or initiatives delivered within organisations or systems that may fall outside conventional publication channels.

FUNDING ACKNOWLEDGMENT

The time for the lead researcher was funded by the NIHR (NIHR150089) using UK international development funding from the UK Government to support global health research. The views expressed in this publication are those of the authors and not necessarily those of the NIHR or the UK government.

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APPENDIX A

EXAMPLE SEARCH STRATEGY

(TITLE-ABS-KEY((project OR research OR study OR program* OR management OR support OR science) W/2 (office* OR manag* OR support OR coordinator OR co-ordinator OR administrat* OR staff OR professional* OR employe*)) AND TITLE-ABS-KEY((onboard* OR "capacity build*" OR train* OR mentor* OR "professional development" OR " capacity strength*" OR "role clarity" OR "role expectation*" OR "education*" OR "teaching" OR "learning" OR workshop OR course OR "role clarity" OR "toolkit" OR "seminar" OR "skill*" OR "intervention" OR competenc*)) AND TITLE-ABS-KEY(afghan* OR africa* OR albania* OR algeria* OR angola* OR antigua* OR barbuda* OR argentin* OR armenia* OR aruba* OR azerbaijan* OR bahrain* OR bangladesh* OR bengal* OR bangal* OR barbados* OR barbadian* OR bajan OR bajans OR belarus* OR belorus* OR byelarus* OR byelorus* OR belize* OR benin* OR dahomey OR bhutan* OR bolivia* OR bosnia* OR herzegovin* OR botswan* OR batswan* OR bechuanaland OR brazil* OR brasil* OR bulgaria* OR burkina* OR burkinese* OR upper-volta* OR burundi* OR urundi* OR cabo-verde* OR cape-verde* OR cambodia* OR kampuchea* OR khmer* OR cameroon* OR cameroun* OR ubangi-shari* OR chad* OR chile* OR china* OR chinese OR colombia* OR comoro* OR comore* OR comorian* OR mayotte* OR congo* OR zaire* OR costa-rica* OR (cote* AND *ivoir*) OR ivory-coast* OR ivorian* OR croatia* OR cuba* OR cyprus* OR cypriot* OR czech* OR djibouti* OR french-somaliland* OR dominica* OR ecuador* OR egypt* OR united-arab-republic* OR el-salvador* OR salvadoran* OR guinea* OR equatoguinea* OR eritrea* OR estonia* OR eswatini* OR

swaziland* OR swazi* OR swati* OR ethiopia* OR fiji* OR gabon* OR gabonese* OR gabonaise* OR gambia* OR georgia OR georgian OR georgians OR ghana* OR gibraltar* OR greece* OR greek* OR grecian* OR grenada* OR grenadian* OR guam* OR guatemala* OR guyana* OR guiana* OR guyanese* OR haiti* OR hispaniola* OR hondura* OR hungary* OR hungarian* OR india* OR indonesia* OR iran* OR iraq* OR isle-of-man* OR jamaica* OR jordan* OR kazakh* OR kenya* OR karabati* OR korea* OR kosovo* OR kosova* OR kyrgyz* OR kirgiz* OR kirghiz* OR laos OR lao OR laotian* OR latvia* OR lebanon* OR lebanese* OR lesotho* OR lesothan* OR lesothonian* OR basutoland* OR mosotho* OR basotho* OR liberia* OR libya* OR jamahiriya* OR lithuania* OR macedonia* OR madagasca* OR malagasy* OR malawi* OR nyasaland* OR malaysia* OR malay-federation OR malaya-federation OR malayan-federation OR maldives* OR maldivian* OR indian-ocean* OR mali* OR malta* OR maltese* OR micronesia* OR marshallese* OR kiribati* OR marshall-island* OR nauru OR nauran OR nauruans OR nauran* OR mariana OR marianas OR palau OR paluan* OR tuvalu* OR mauritania* OR mauritan* OR mauritius* OR mexico* OR mexican* OR moldova* OR moldovia* OR mongol* OR montenegr* OR morocco* OR moroccan* OR ifni OR mozambique* OR mozambican* OR myanmar* OR burma* OR burmese OR namibia* OR nepal* OR new-caledonia* OR netherlands-antill* OR nicaragua* OR niger* OR oman* OR pakistan* OR palestin* OR gaza* OR west-bank* OR panama* OR paraguay* OR peru* OR philippine* OR philipine* OR phillipine* OR phillippine* OR filipino* OR filipina* OR poland* OR polish OR pole OR poles OR portugal* OR portuguese OR puerto-ric* OR romania* OR russia* OR ussr* OR soviet* OR rwanda* OR rwandese OR ruanda* OR ruandese OR samoa* OR navigator-island* OR pacific-island* OR polynesia* OR sao-tome* OR santomean* OR saudi-arabia* OR saudi OR saudis OR senegal* OR serbia* OR seychell* OR sierra-leone* OR slovak* OR sloven* OR melanesia* OR solomon-island* OR norfolk-island* OR somali* OR sri-lanka* OR ceylon* OR saint-kitts OR st-kitts OR kittian* OR nevisian* OR saint-lucia* OR st-lucia* OR saint-vincent* OR st-vincent* OR vincentian* OR grenadine* OR sudan* OR surinam* OR syria* OR tajik* OR tadjik* OR tadjik* OR tanzania* OR tanganyika* OR thai* OR timor-leste* OR east-timor* OR timorese* OR togo* OR tonga* OR trinidad* OR tobago* OR tunisia* OR turkiy* OR turkey* OR turk OR turks OR turkish OR turkmen* OR uganda* OR ukraine* OR uruguay* OR uzbek* OR vanuatu* OR new-hebrides OR venezuela* OR vietnam* OR vietnam* OR yemen* OR yugoslav* OR zambia* OR zimbabwe* OR rhodesia* OR arab-countr* OR arabic-countr* OR middle-east* OR global-south OR sahara* OR subsahara* OR magreb* OR maghrib* OR west-indies* OR caribbean* OR central-america* OR latin-america* OR south-america* OR asia-central OR central-asia* OR asia-northern OR north-asia* OR northern-asia* OR asia-southeastern OR southeastern-asia* OR south-eastern-asia* OR southeast-asia* OR south-east-asia* OR asia-western OR west-asia* OR western-asia* OR europe-eastern OR east-europe* OR eastern-europe* OR developing-countr* OR developing-nation* OR developing-population* OR developing-world OR less-developed-countr* OR less-developed-nation* OR less-developed-world OR lesser-developed-countr* OR lesser-developed-nation* OR lesser-developed-world OR under-developed-countr* OR under-developed-nation* OR under-developed-world OR

underdeveloped-countr* OR underdeveloped-nation* OR underdeveloped-world OR middle-income-countr* OR middle-income-nation* OR middle-income-population* OR low-income-countr* OR low-income-nation* OR low-income-population* OR lower-income-countr* OR lower-income-nation* OR lower-income-population* OR underserved-countr* OR underserved-nation* OR underserved-population* OR under-served-population* OR under-served-nation* OR under-served-population* OR deprived-countr* OR deprived-population* OR high-burden-countr* OR high-burden-nation* OR countdown-countr* OR countdown-nation* OR poor-countr* OR poor-nation* OR poor-population* OR poor-world OR poorer-countr* OR poorer-nation* OR poorer-population* OR poorer-world OR developing-econom* OR less AND developed-econom* OR underdeveloped-econom* OR under-developed-econom* OR middle-income-econom* OR low-income-econom* OR lower-income-econom* OR low-gdp OR low-gnp OR low-gross-domestic OR low-gross-national OR lower-gdp OR lower-gnp OR lower-gross-domestic OR lower-gross-national OR Imic OR Imics OR third-world OR lami-countr* OR transitional-countr* OR emerging-econom* OR emerging-nation*)) AND PUBYEAR > 2003 AND PUBYEAR < 2026 AND (LIMIT-TO (LANGUAGE,"English"))

APPENDIX B

ADDITIONAL GREY LITERATURE SOURCES. LAST SEARCH ON 4.11.2025

INORMS – International Network of Research Management Societies:

<https://inorms.net/>

SRAI – Society of Research Administrators International:

<https://www.srainternational.org/home>

SARIMA – Southern Africa Research and Innovation Management Association:

<https://www.sarima.co.za/>

EARIMA – Eastern Africa Research and Innovation Management Association:

<https://earima.net/>

MyRMA – Malaysia Association of Research Managers and Administrators:

<https://myrma.org/>

WARIMA – West African Research and Innovation Management Association:

<https://warima.org/index.php/trainings/>

The Global Health Network: <https://tghn.org/>

SFA Foundation: <https://scienceforafrica.foundation/>

LSTM – Liverpool School of Tropical Medicine: <https://www.lstmed.ac.uk/>

NCURA – National Council of University Research Administrators:

<https://www.ncura.edu/>

WHO – World Health Organization: <https://www.who.int/>

NIHR – National Institute for Health and Care Research: <https://www.nihr.ac.uk/>

BIOGRAPHIES



Dionysia (Dio) Kordopati is a project manager with a background in Environmental Management (MSc) and Mining Engineering (MEng & BSc). Drawing on experience in the environmental private sector, she has transitioned into research management and administration, building expertise across a range of roles within UK higher education institutions and research centres. Her work spans project oversight, international partnerships, and diverse funding landscapes, engaging with academic, NGO, and industry partners. She has a particular interest in strengthening research administration capacity in low- and middle-income countries and in supporting the professional development of early-career research management and administration professionals.

Julie Mytton qualified in medicine and worked in Primary Care, Community Paediatrics and Public Health before joining the University of the West of England, Bristol, where she is Professor of Public Health. Her research explores the social and environmental factors underpinning effective injury prevention and policy, with a particular focus on low- and middle-income countries.

Jude McClellan is a Postgraduate Researcher and Psychology Associate Lecturer at the University of the West of England, currently based in the Centre for Public Health and Wellbeing. Her PhD project focuses on adapting a complex intervention specifically for people with young onset dementia.



Anastasia Diamantopoulou (PhD) is a neuroscientist and researcher with extensive experience in international academic environments, including Columbia University and Goethe University Frankfurt. Her work has focused on the neurobiological mechanisms underlying cognition and psychiatric disorders. Alongside her research, she has contributed to the training and mentoring of students and early-career researchers, research management, scientific communication, and collaborative initiatives aimed at strengthening research cultures and professional development.

AUTHORS' CONTRIBUTION STATEMENT

Dionysia (Dio) Kordopati  0000-0003-1567-2777:  Conceptualisation, Data curation, Formal analysis, Investigation, Methodology, Project administration, Validation, Writing – original draft, Writing – review & editing

Julie Mytton  0000-0002-0306-4750:  Conceptualisation, Funding acquisition, Methodology, Supervision, Validation, Writing – review & editing

Jude McClellan  0009-0009-9744-7792:  Data curation, Validation, Writing – review & editing

Anastasia Diamantopoulou  0000-0002-3350-0330:  Data curation, Writing – review & editing

Accepting Editor: Saiqa Anne Qureshi | Received: 23 March 2026 | Accepted: 21 May 2026

Cite as: Kordopati, D., Mytton, J., McClellan, J., & Diamantopoulou, A. (2026). Capacity Strengthening

Initiatives for Research Management and Administration Professionals in LMICs: A Scoping Review. *Journal of Research Management and Administration*, 5(1), 2026061701.

<https://doi.org/10.18552/jorma.v5i1.1440>

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