The Academy of Medical Sciences

Strengthening clinical research career pathways in low- and middle-income countries:

Evidence, challenges, and policy opportunities

Executive summary

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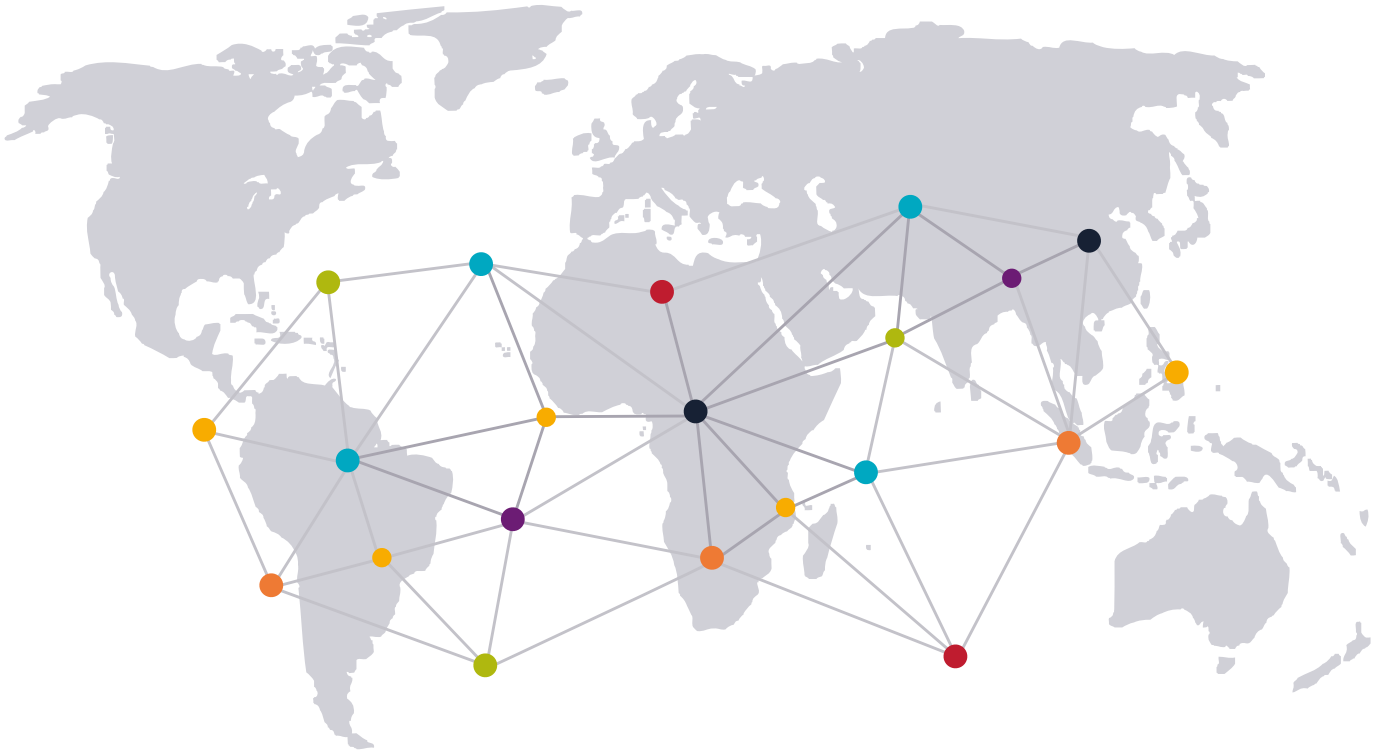
For all countries, strengthening capacity to conduct clinical research is critically important. This is especially true for low- and middle-income countries (LMICs), where disease and mortality burdens are highest and the potential gains for improved health are greatest.



Formalised and locally embedded clinical research career pathways (CRCPs) create a vital building block for wider research capacity strengthening. CRCPs provide an integrated, structured and recognised career structure that can be followed by all health professionals who actively participate or have an interest in research. This should include a defined progression of roles, training and responsibilities, supported and sustained by the healthcare system and academic institutions working together to promote flexible and integrated career paths.

Clinical researchers play a pivotal role in the production of high-quality, impactful, and relevant research. However, in many LMICs major barriers can hinder the development of a clinical research career. Across many LMICs in Africa, Asia and Latin America, the formalisation, recognition and accreditation of a CRCP is more limited. As a result, clinical researchers in these settings have varying and complex career trajectories.

This project was undertaken to understand the career pipeline for clinical researchers in LMICs. An expert international working group has informed the project, alongside a series of evidence-gathering workshops in Africa, Asia, and Latin America and research conducted by the Centre for Capacity Research at the Liverpool School of Tropical Medicine.

Strengthening research capacity has been the focus of numerous studies and programmes over the past two decades. However, this initiative is distinct because it emphasises the **critical need for investment and structural change at institutional and national levels in the research ecosystem in order to strengthen CRCPs**, rather than focusing

solely on individual researchers. Individual researchers thrive when they have a supportive system – one that provides clear pathways, resources and recognition.

While LMICs are highly diverse, the full report highlights stark similarities in the main barriers to CRCPs across Asia, Africa and Latin America, with country-specific nuances depending on levels of development and government support. These barriers include: gaining relevant education and training, with many clinical researchers not holding a PhD; limited access to international and domestic funding; balancing teaching, research and clinical care responsibilities, with a lack of protected time for research; and limited flexibility to move between academic and clinical settings. Institutional support is vital for individuals pursuing clinical research pathways, and institutions themselves are tied to the broader regulatory and funding environment in which they operate.

Research infrastructure, domestic and international funding, and research governance are foundational building blocks needed for a strong and formalised CRCP. In the case of research infrastructure, there needs to be an optimal physical space, laboratory equipment, digital infrastructure and human resources, as these affect clinical researchers' ability to do primary and secondary research. Clinical researchers would also benefit from a dedicated research support office within institutions to provide guidance on project management and obtaining grants. In the case of research funding, challenges include the requirement of many funders for applicants to hold a PhD. There are also geographical disparities, with funding concentrated in a few well-resourced countries. Finally, in the case of governance, current regulatory and ethics systems were identified as burdensome, over-complicated and difficult to navigate.

Key opportunities for action

Recognise clinical research as a formal career pathway

Academic institutions and health services (including hospitals) must formally recognise clinical research as a career pathway with defined yet flexible structures.

Increase flexibility of funding schemes

Funding schemes for clinicians should offer flexibility in timing and entry points along the CRCP.

Enable clinical practice–research integration

Opportunities must exist for the integration of clinical practice and research, with protected time and funding that allow clinicians to pursue research alongside clinical training or practice.

Prioritise mentorship and supervision

Mentorship and supervision are essential and should be promoted and formally recognised as key components of career development.

Introduce research early in education

Clinical research needs to be introduced as a career opportunity early on in health professionals' education, to encourage engagement and interest.

Increase access to research funding

More resource availability is required, including competitive research funding for clinicians at national, regional and institutional levels.

There is an urgent need to formalise CRCPs at institutional and national levels, supported by funding from governments and from international agencies.

Beyond the societal benefits, the economic returns from better population health are well documented and represent a key investment opportunity for every government.

Clinical research serves as the cornerstone of evaluating the effectiveness of existing medical and public health interventions and of developing new and better treatments for the future.

Investing in clinical research is therefore highly cost-beneficial and should be considered as essential rather than a luxury, particularly in today's political climate where every country must strive to meet its own health needs and priorities, and cannot rely on aid and support from other nations.

Underpinning all the recommendations and themes in the report is the recognition that clinical research pathways involve a wide array of stakeholders, whose roles and influence vary across countries and regions.

The full report and its recommendations are a starting point for the appropriate stakeholders in each context to act. Urgent efforts are needed to map these key stakeholders in each context, foster collaboration and drive context-specific solutions. This work needs to begin now.

Recommendation 1

This recommendation is targeted at the following key stakeholders: academic institutions, health system policymakers and government ministries.

Clinical research should be recognised as a formal career pathway. To achieve this, we recommend improved collaboration between academic institutions and health systems to develop clear and defined policies for CRCPs that strengthen integration between research and clinical practice. Such policies should be supported by relevant government ministries and should aim to achieve the following.

- Be flexible in structure, recognising the complexities of existing career pathways, acknowledging the multiple approaches to pursuing a clinical research career, and allowing for clinical practice and research to interchange and co-exist with integrated training.
- Implement steps for improved collaboration between health systems and academic organisations, to formalise and highlight the value of research within health systems and better acknowledge the huge burden of clinical demands and its impact on the time required to undertake research. Healthcare organisations and academic institutions should be encouraged to jointly allocate strictly protected research time for clinical researchers.
- Develop flexible approaches to clinical and research training through new or modified funding mechanisms to ensure clinical researchers have mobility between academic, research and clinical environments and to ensure alignment between salary structures across both areas.
- Encourage joint appointments that enable clinical researchers to hold joint positions across academia and healthcare organisations; to enable this, clinical research needs to be formally recognised as an essential entity within the public health system, supported by the creation of specific roles and posts.

Recommendation 2

This recommendation is targeted at academic institutions.

To create and promote an enabling environment for clinical research, we recommend the development and implementation of the following actions by academic institutions that can facilitate interest in and better support career progression for clinical researchers.

- Formally embed clinical research as a structured module or elective in basic medical training at the undergraduate stage.
- Promote and formalise structured mentorship schemes, with individual roles as mentors included in academic promotion and annual performance reviews.
- Develop institutional key performance indicators to monitor and evaluate researcher career development and incentivise and promote time spent undertaking research beyond academic teaching duties.
- Increase resource availability by leveraging regional, national and institutional funds for research training and early-career support.
- Promote adherence to, and a culture of, good clinical research practice. Implement guidance, support and policies to discourage research misconduct and promote high-quality and relevant research that actively contributes to clinical practice guidelines or improving patient outcomes.

Recommendation 3

This recommendation is targeted at international and domestic funders.

We recommend that international and domestic funders establish new, or modify existing, funding schemes for clinicians to offer flexibility around the time and stage that people enter the CRCP. Funders should consider the following actions.

- Recognise that clinical academic career progression may be slower, due to dual responsibilities of research and clinical practice, and work to ensure parity of salaries between the two.
- Develop tailored funding schemes that allow for flexibility and mobility between academic and clinical settings, to include allowing for clinical and research training alongside each other.
- Broaden eligibility criteria for existing funding programmes, particularly those that require a PhD, to allow clinicians to apply for fellowships or training opportunities without holding a doctoral degree – recognising that many clinicians gain substantial research experience outside of formal PhD programmes.
- Recognise that funding durations may need to be longer for clinical research, to allow time for regulatory and ethics approvals that are highly variable across regions and the specifics of the research involved.

Recommendation 4

This recommendation is targeted at regulatory and ethics stakeholders.

We recommend placing a particular focus on the impact of current lengthy and complex regulatory and ethical approval processes on clinical academics, particularly early-career researchers. To achieve this, a study should be commissioned to explore this and identify barriers and best practices. In the short term, streamlining ethical and regulatory approval processes within and across countries should be prioritised. To achieve this recommendation, work of this nature should include the following.

- Give focus to the impact of current regulatory and ethics systems as a major barrier to young researchers' careers, and to the disproportionate costs of ethics reviews for clinical fellows with small research budgets.
- Consider how to increase collaboration between researchers, institutions and regulatory bodies to streamline processes, particularly for low-risk research.
- Streamline approval processes and limit costs, complexity and wait times for clinical researchers; limit the number of reviews and approvals required from multiple ethics bodies (implementing a 'one-door review' process).
- Understand diverse stakeholder perceptions of current policies and governance systems related to the CRCP.
- Promote the role of research governance integration in the CRCP and consider how to ensure a narrative that conveys the positive benefits of clinical research.
- Integrate with other initiatives happening in research governance (e.g. Africa Vaccine Regulatory Forum, **www.afro.who.int/health-topics/immunization/avaref**).

Next steps

This project took a global approach to collecting evidence and developing recommendations that provide a broad and useful overview of the current career pipeline for clinical researchers, and the barriers and opportunities that exist globally.

However, to facilitate targeted action in each individual context, the project and its recommendations would require more context specificity. As such, the recommendations should be considered as a starting point for generating tailored and targeted solutions for context-specific challenges associated with CRCPs. Follow-up work is crucial to building on the project findings, and identifying the correct stakeholders to take forward each recommendation in each setting is a vital next step. A key finding of this project is the diverse and vast number of stakeholders involved in CRCPs. Key stakeholders differ across countries and regions, and further analysis is required to identify those best placed to strengthen the CRCP in each context.

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Key takeaways:

Strengthen CRCPs

Formal national and institutional pathways are essential.

Invest for greater impact

Sustained funding builds stronger research capacity.

Remove key barriers

Complex regulations and limited resources slow progress.

Engage the right stakeholders

Roles differ across countries, and improvement depends on involving the appropriate groups.

Collaborate and act now

Coordinated, context-specific solutions are urgently needed.

Scan the QR code to read the full report

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