



## Strengthening Allied Health Sciences in Developing Countries: Perspectives from Abubakar Tafawa Balewa University, a Leading University of Technology

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### Abstract

Allied Health Sciences are rapidly becoming indispensable to resilient and equitable health systems in the Global South. This opinion piece examines the rise of allied health professions in developing countries and explains how demographic shifts, the expanding burden of non-communicable diseases, and technological advances have collectively amplified demand for skilled allied health workers. It discusses how education reforms and the proliferation of university faculties, together with interprofessional education, are strengthening local capacity for diagnostics, rehabilitation, community outreach, and health information management. The COVID-19 pandemic is highlighted as both a stress test and a catalyst that showcased the central role of laboratory scientists, physiotherapists, radiographers, and community health workers in emergency and recovery responses. The abstract also outlines persistent constraints, including weak regulation, limited career pathways, workforce maldistribution, and insufficient investment in infrastructure and continuous professional development.

Policy priorities are proposed: integrate allied health into national human resources for health planning, strengthen accreditation and licensing systems, invest in targeted training and mentorship programs, and expand research and technology adoption matched to local needs. Finally, the abstract argues that a deliberate policy and institutional focus on Allied Health Sciences can widen access to essential services in under-served areas, improve health equity, and accelerate progress toward universal health coverage.

**Keywords:** Allied Health Sciences, Developing Countries, 21st Century

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### Introduction

The global health landscape has undergone a profound transformation in the 21st century, marked by an increased awareness of the complexity of healthcare systems and the vital role of diverse professional groups in achieving optimal health outcomes. Among these groups, Allied Health Sciences have emerged as a critical pillar in the delivery of effective and equitable healthcare services. For developing countries, where health systems are often overstretched and under-resourced, the growth of Allied Health Sciences represents both a strategic opportunity and an urgent necessity.

### Scope of Allied Health Professions

Allied health professionals encompass a wide range of disciplines, including medical laboratory science, physiotherapy, radiography, public health, health information management, occupational therapy, and more. They are the backbone of diagnostic services, rehabilitation, community health education, and support systems essential for integrated care. In many developed countries, the allied health workforce already outnumbers physicians, a trend that is

gradually taking root in developing regions as well.

### Changing Disease Burden and Emerging Health Needs

In sub-Saharan Africa, South Asia, and parts of Latin America, the rise of Allied Health Sciences has been spurred by the dual forces of demographic growth and an evolving burden of disease. Non-communicable diseases (NCDs) such as diabetes, cancer, and cardiovascular conditions now sit alongside traditional infectious disease threats, creating a dual burden that demands more comprehensive healthcare delivery systems. Allied health professionals, through their preventive, diagnostic, and rehabilitative capacities, are uniquely positioned to respond to this challenge. Indeed, the prevalence of NCDs among healthcare workers themselves in sub-Saharan Africa underscores the urgency of strong allied health and broader health workforce strategies [Freeman et al., 2024](#).

### Drivers of the Rise of Allied Health Sciences

Several key drivers are propelling the rise of Allied Health Sciences in developing countries. First, there is a growing recognition of the limitations of physician-centric models of

care. Health systems that rely solely on doctors and nurses are neither sustainable nor sufficient to meet the diverse health needs of growing populations. The integration of allied health workers into multi-disciplinary teams ensures more holistic care and enhances the efficiency of healthcare delivery. This is in line with global health labour-market frameworks that highlight imbalances in skill-mix, workforce distribution, and training in low- and middle-income countries (LMICs) [World Health Organization, 2008](#).

Second, educational reforms and investments in health workforce training are expanding opportunities for young people to enter allied health professions. Universities across Africa, including our own Abubakar Tafawa Balewa University (ATBU), have begun to establish faculties and departments dedicated to Allied Health Sciences. These academic programs not only provide specialized training but also foster research, innovation, and local leadership in healthcare. Interprofessional education (IPE) has been shown to improve collaborative practice, and though relatively new in sub-Saharan Africa, it has positive outcomes on attitudes, knowledge, and teamwork among health students [Patel et al., 2025](#). Moreover, allied-health-specific IPE research reveals that pre-licensure IPE builds understanding of professional roles and improves inter-disciplinary communication [Bainbridge, 2014](#).

Third, technological advancements have increased the relevance and impact of allied health professionals. From digital radiography and point-of-care diagnostics to telehealth platforms and electronic health records, the effective deployment of technology depends heavily on skilled personnel. Allied health professionals are at the forefront of operating, maintaining, and interpreting these tools, often serving as the interface between technology and patient care. However, health information systems in LMICs face interoperability challenges, fragmented infrastructure, and limited capacity, which underscores the need for trained allied health workers as part of the solution [Jayathissa & Hewapathirana, 2023](#).

In addition, the COVID-19 pandemic exposed critical gaps in global health systems but also highlighted the indispensable contributions of allied health professionals. Medical laboratory scientists led the charge in testing and surveillance, radiographers played pivotal roles in diagnosing respiratory complications, and physiotherapists and rehabilitation experts helped manage post-COVID recovery. This heightened visibility has fueled calls for greater institutional support and investment in the allied health workforce. In community-based responses, community health workers (CHWs), often overlapping with allied health roles, were essential during the pandemic [Kim et al., 2025](#).

Despite these advances, challenges remain. Many developing countries still grapple with weak regulatory frameworks, inadequate funding, and poor career pathways for allied health professionals. Salaries and working conditions are often suboptimal, leading to brain drain and underuti-

lization of trained personnel. Indeed, the overall health workforce shortages, maldistribution, and migration continue to hamper sustainability [Shannon et al., 2019](#); [Wroe et al., 2019](#).

## National-Level Policy Reforms

Addressing these systemic barriers is essential to fully harness the potential of the allied health sector. Strategic policy reforms are needed at both national and institutional levels. Governments must incorporate allied health planning into broader human resources for health strategies. Accreditation and licensing systems should be strengthened to ensure quality and professionalism. In addition, there must be sustained investment in infrastructure, research, and continuous professional development. Mentorship has been identified as a critical strategy to improve the performance and retention of health personnel in LMICs [Hall, 2017](#).

## Strengthening Universities and Training Institutions

At the institutional level, universities have a crucial role to play in mainstreaming Allied Health Sciences. Curricula must be aligned with local health needs while also adhering to international standards. Collaboration between academic institutions, healthcare providers, and professional bodies is essential to ensure that training is practical, relevant, and responsive to changing realities. As Vice Chancellor of ATBU, I am particularly proud of the strides our institution has made in promoting Allied Health Sciences. The establishment of the Faculty of Allied Health Sciences and the Department of Nursing Science is a testament to our commitment to producing a new generation of health professionals equipped to meet 21st-century challenges. Our vision is to become a hub for excellence in allied health education, research, and service in Nigeria and beyond.

## Promoting Interprofessional Collaboration

Beyond training, it is imperative to nurture a culture of respect and collaboration across health professions. Interprofessional education (IPE), where students from different health disciplines learn together, fosters mutual understanding and prepares graduates for team-based practice. This approach is especially relevant in resource-limited settings where teamwork can compensate for limited manpower and infrastructure. Evidence from sub-Saharan Africa shows IPE is still nascent but growing, with studies reporting positive attitude changes and skills acquisition [Patel et al., 2025](#).

## Implications for Health Equity

The rise of Allied Health Sciences in developing countries also carries profound implications for health equity. Many rural and underserved communities lack access to doctors but can benefit significantly from allied health services.

Community health workers, health educators, and rehabilitation specialists can bridge the gap between health systems and populations, particularly in maternal-child health, disability support, and chronic disease management. Indeed, CHWs have been shown to improve health outcomes across low- and middle-income settings [Gilmore & McAuliffe, 2013](#).

## Conclusion

The 21st century has ushered in a transformative era for healthcare in developing countries, with Allied Health Sciences emerging as a cornerstone of effective, equitable,

and resilient health systems. Their growing relevance reflects shifting health needs, technological advancements, and changing models of care. By investing in training, regulation, research, and interprofessional collaboration, developing countries can unlock the full potential of allied health professionals. The rise of Allied Health Sciences presents a unique opportunity to strengthen health systems, promote equity, and improve population health across the Global South. Policymakers, educators, and health leaders must seize this moment to prioritize and champion the allied health workforce as an essential driver of future health gains. Let us rise together to shape the future of health.

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