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Leadership development programs for healthcare professionals in low-and middle-income countries: A systematic review

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Abstract

Background: Leadership development programs are integral to the future success of public health and healthcare organizations. Despite low-and middle-income countries (LMICs) bearing a greater burden of unmet medical needs, fewer professional development opportunities exist in these settings. This study aims to provide a comprehensive understanding of available leadership development programs for healthcare professionals in LMICs.

Methods: This study conforms to the PRISMA-P systematic review and traditional meta-analyses guidelines. Articles were identified through five academic databases: Embase, PubMed, Web of Science, ERIC, and Business Source Complete. Eligibility criteria included original research published in peer-reviewed journals on non-clinical, leadership development programs offered to healthcare professionals in LMICs worldwide.

Results: 41 peer-reviewed articles met inclusion criteria, of which physicians, nurses, and public health professionals were the most common types of providers to attend leadership development programs; no programs exclusively targeted surgeons. The greatest proportion of programs were short-term interventions (ranging from 1 day to 12 weeks). Communication, organizational structure and leadership, and personal development were identified as the three most common leadership topics in the review. Regionally, leadership programs were reported most commonly in Africa, specifically in Anglophone countries. Other regions worldwide, including Latin America and the Caribbean, were underrepresented in the review.

Conclusions: The findings from this review identify gaps in leadership development programs for certain groups of healthcare professionals from certain geographical regions, supporting the need for further provision of and participation in these opportunities in LMICs.

Keywords: leadership development, leadership training, healthcare professionals, low-and middle-income countries, LMICs

Highlights (80 characters including spaces)

1. Despite LMICs bearing a greater burden of unmet medical needs, fewer professional development opportunities exist in these settings.
2. Physicians were the most common group to attend leadership programs. No programs exclusively targeted surgeons.
3. Communication, organizational structure and leadership, and personal development were the three most commonly identified topics in the review.
4. Regionally, leadership programs were reported most commonly in Africa, specifically in Anglophone countries.

1. Introduction

Developing and facilitating leadership training programs for healthcare professionals is critical to improving the delivery of high-quality healthcare.^{1,2} Effective leadership, communication, collaboration, and strategic planning are increasingly vital to the future success of public health and healthcare organizations.³⁻⁵ In the medical field, the concept of leadership has evolved from a top-down, hierarchical model where advancement was based on academic or clinical accomplishments, to a model where more emphasis is put on leadership as a multifaceted, non-linear process.^{2,6,7} The ability to mentor, motivate, and collaborate on developing a common vision are valued skills for effective leaders.^{6,8} These non-clinical behavioral characteristics are paramount for success in the medical field and are foundational to healthcare professionals' skillsets and clinical expertise.⁹⁻¹¹

There is a growing interest in teaching and supporting non-technical leadership training for medical professionals, and over the last two decades, participation in leadership programs has increasingly become recognized as a scholarly activity.⁶ While literature in the field of medical education leadership has increased substantially, the majority of research on the efficacy of leadership education for healthcare professionals is concentrated on high-income countries (HICs);⁴ limited literature exists on the availability of such programs in low-and middle-income countries (LMICs). With only 2% of health expenditures worldwide being spent on training healthcare professionals,¹ the Lancet Commission has endorsed competency-based leadership education and training for healthcare professionals to address and improve the delivery of patient care.¹² Yet, there remains an overall lack of information on leadership development programs for healthcare professionals in low-resource environments, highlighting an important field for examination. Thus, the aim of this systematic review is to provide a comprehensive understanding of the available leadership development programs for healthcare professionals in LMICs.

2. Materials and Methods

2.1. Search Strategy

This systematic literature review conforms to the systematic review and traditional meta-analysis guidelines outlined in the 2015 PRISMA-P (Preferred Reporting Items for Systematic Reviews

and Meta-Analysis) Statement.¹³ The objective was to identify original research articles that described programs and courses on leadership skills that were offered to healthcare professionals and trainees. Literature inclusion criteria to identify eligible articles were established a priori to include the following: a full-text, peer-reviewed publication, and a primary source of original data with no excluded articles based on language; description of a program or course curriculum with a primary focus on developing leadership development skills; and description of a course in which at least 50% of the participants are healthcare professionals from countries that are classified as low-income countries (LICs), lower-middle-income countries (LMICs), and upper-middle-income countries (UMICs) according to the 2020 World Bank Country and Lending Groups data.¹⁴ All HICs were excluded from the search, with the exception of two Latin American countries: Chile and Uruguay. The latter countries were included to better understand the opportunities in the Latin American region, which have high levels of healthcare inequities across countries and similar limitations in their public health systems.

2.2. Data Sources

A comprehensive search was conducted from 1985 to March 2020 in five academic databases: EMBASE (<https://www.elsevier.com/solutions>); PubMed (<https://pubmed.ncbi.nlm.nih.gov>); Web of Science (<https://clarivate.libguides.com/webofscienceplatform>); Education Resources Information Center (ERIC; <https://eric.ed.gov/>); and Business Source Complete (<https://www.ebsco.com/products/research-databases/business-source-complete>). With the aid of a research librarian, a standardized search algorithm was developed using search terms in English and modified for each database. Both index terms (Mesh and Emtree) and keywords were used when formulating the searches. The searches were divided into three main concepts: 1. leadership training and education, 2. physician and clinician groups, and 3. low-and middle-income countries. The search strings included numerous synonyms and related terms within these three concepts to develop the final search for each database (Appendix A).

2.3. Study Selection

A systematic review software program, DistillerSR (Evidence Partners, Ottawa, Canada), was used to facilitate article selection and data extraction. Following duplicate detection in both EndNote and DistillerSR, two rounds of screening were conducted to identify eligible articles: a

111 title and abstract screening, followed by full-text screening. Three researchers (M.C.M., T.A.M.,
112 and D.M.C.) independently evaluated the titles and abstracts of articles, which were reviewed in
113 duplicate to identify possible eligibility (Appendix B). Remaining articles from this group
114 underwent a full-text screening, which were also reviewed in duplicate to determine eligibility
115 for inclusion (Appendix C). Any inclusion conflicts during the title and abstract screening phase
116 and the full-text screening phase were subsequently resolved by consensus amongst all authors.
117 Any publications that were not peer-reviewed publications and did not appropriately detail the
118 content of a course curriculum were excluded. No publications were excluded based on
119 language, with articles in English and Spanish included in the final review.

121 *2.4. Data Extraction and Synthesis*

122 Two researchers (M.C.M. and T.A.M.) independently conducted data extraction in eligible
123 articles using a structured data entry form (Appendix D). Extracted information from the data
124 entry form included: 1. course participants: age, healthcare profession, country of origin, medical
125 or surgical specialty, and participant selection process; 2. course setting and design: host country,
126 host organization, type of course, length of course, number of participants, teaching and learning
127 methods employed, and educational content; and 3. evaluation design, method, and outcome:
128 quantitative and qualitative methods and course impact.

130 **3. Results**

131 *3.1 Literature Search Yield*

132 The literature search yielded 4,283 citations: 460 from PubMed, 2,680 from EMBASE, 566 from
133 Web of Science, 453 from ERIC, and 124 from Business Source Complete. After duplicate
134 detection, there were 2,823 unique articles that met the eligibility criteria. After title and abstract
135 screening, 146 articles were included for full-text screening, 41 of which were selected for final
136 data extraction (Figure 1). Table 1 presents an overview of the articles reviewed.¹⁵⁻⁵⁵

138 *3.2 Setting and Target Group*

139 Among the 41 included articles, leadership development programs were conducted in 44 distinct
140 countries across six continents, 7 of which were LICs, 12 were LMICs, and 10 were UMICs.
141 Fifteen of these programs were hosted in partnerships with HICs. Regionally, the highest

proportion of leadership programs in the review (n=20) were held in Africa and represented participants from African countries most frequently (n=23). By contrast, only 6 programs were held in Latin American and the Caribbean, identifying this region as the most underrepresented in the review.

A wide range of health providers participated in the leadership development programs, including attending physicians, fellows, residents, medical students, nurses, healthcare students, and public health professionals. Of the 41 articles, 20 programs targeted physicians as course participants, with another third (n=13) targeting nurses, followed by public health professionals (n=8), and medical students (n=4). Four of these leadership programs were interdisciplinary and included physicians, nurses, and healthcare staff.^{31,33,41,44} Of the 20 programs that targeted physicians, nine were specific to certain specialties, including psychiatry, internal medicine, emergency medicine, palliative care, and infectious disease. Notably, no programs included in this study exclusively targeted surgeons.

While more than half (n=23) of the programs did not specify participant ages, those that did, indicated that leadership programs were commonly geared towards individuals 30 years and older (n=16).

3.3 Program Design

Academic institutions most commonly hosted leadership development programs (n=25). Approximately half of the programs (n=18) were short-term interventions, ranging from one day to 12 weeks, and comprised plenary sessions, workshops, and conferences. Fewer programs (n=10) were delivered at a mid-term length, ranging from six months to one year. Long-term, programs, ranging from one to five years, were the least common in this review (n=7). Both the mid- and long-term courses included experiential learning elements, such as participating in international mentored projects and experiences that supplemented didactic work. Six articles did not specify the program duration.

3.4 Curricula and Learning Methods

The educational leadership course curricula were multidisciplinary and included diverse content on leadership development and management themes. The three most common topics across leadership programs were communication (n=21), organizational structure and leadership (n=18), and personal development (n=15). Similarly, multiple learning methods were reported, with the most common being workshops (n=24) and lectures (n=20), followed by problem-based learning activities (n=11), groupwork (n=10), and experiential learning and fieldwork (n=10). Case-based discussions (n=4), didactics (n=4), coaching sessions (n=4), and seminars (n=3) were employed less frequently. Journaling and note-taking were the least reported (n=2) learning methods in the review.

Qualitative, quantitative, and mixed methods were used to assess course impact, including validated assessment tools, such as the WK Kellogg logic model of program evaluation, Kirkpatrick four-level training evaluation of impact model, and the Birkman Method assessment. Quantitative methods such as the Likert scale (n=14) and pre-and post-intervention measures including self-reported questionnaires and surveys (n=22) were employed. Qualitative data from in-depth unstructured, semi-structured, and structured interviews (n=8) and feedback methods (n=8) enriched the evaluations, with only a minority of programs applying focus groups, note-taking, and participant observations.

3.5 Outcomes and Impact

Personal leadership skills (n=27) and organizational impact (n=14) were reported across leadership development programs. Personal impact was measured by self-reported improvements in behavior or application of course knowledge, long-term practice changes, or accomplishments. Improved awareness of personal behavior when in a leadership or managerial position and greater opportunities for peer-reviewed publications and presentations, were cited in the articles. In addition, organizational impact was determined by the implementation of policy changes or improved workplace culture and delivery of services. The establishment of formal governance boards, coalitions, and non-governmental organizations were reported in the review.

4. Discussion

A systematic review of the literature was conducted, describing available leadership development programs for healthcare professionals in LMICs worldwide. While these programs appear to be evenly distributed across income groups (LICs, LMICs, and UMICs), the literature on leadership training in resource-limited settings remains scarce. Despite the fact that LMICs bear a greater burden of unmet medical needs relative to resource-rich countries,^{9,28,56} there are fewer professional development opportunities in these countries for frontline healthcare providers that could benefit patient care;⁵⁷ building leadership capacity and equipping healthcare professionals with leadership skills could help to transform and improve patient outcomes and health systems.³

While resource-limited countries are seen in regions throughout the world, there appeared to be more international sponsorship (governmental, institutional, or foundation support) for leadership programs based in Africa, particularly in countries with higher percentages of English speakers (Botswana, Uganda, Kenya, and Tanzania). Other regions worldwide, many of which are comprised by non-English speaking countries, were underrepresented in the review. Indeed, programs in Latin America were only represented in six of the 41 articles, of which only one was written in Spanish. In addition to there being few leadership programs identified in this geographic region, only two Latin American leadership programs had international sponsors or partnerships. While language barriers may be one reason for the paucity of programs in this region, the lack of political support and chronic under-funding may also contribute as obstacles.⁵² Moreover, misrepresentation of the economic status of many Latin American countries may be a reason for lack of international sponsors or partnerships; though many of these countries are classified as UMICs, the large disparity in the distribution of wealth and diversity of resources causes a majority of these populations to face challenges typically found in countries with a lower gross domestic product (GDP).^{28,45,58} Consistent with many LMICs, healthcare challenges such as lack of access to resources and affordable care, shortages of skilled healthcare professionals, and overburdened health systems remain an issue in many regions of these countries.^{59,60}

Though physicians were the most common group of healthcare professionals to attend leadership programs, this only pertained to physicians practicing in a medical, non-surgical specialty. No

programs exclusively targeted surgeons, highlighting a lack of leadership opportunities for surgeons in LMICs. Recent literature shows that the majority of leadership programs designed for surgeons are predominantly based in HICs and may tend to concentrate on clinical skills rather than non-technical skills.^{57,61–63} Along with physicians, public health professionals also attended leadership programs more frequently than other healthcare professions. One explanation for this may be that because health systems often have both provider and system-level challenges, training these public health professionals may be viewed as more effective in making system-based changes, by changing policies and increasing awareness at the national level.^{64,65} A partnership with healthcare professionals from all sectors can be an effective way forward.^{66,67}

Since team building and interdisciplinary collaboration are some of the greatest challenges in healthcare, an integrated leadership curriculum that facilitates the coordination of diverse ideas and needs, while creating a shared vision, may be the solution to unifying a team.^{18,68} Frich et al. reported on a lack of integrated leadership programs between physicians and non-physicians in their 2013 review on leadership development programs for physicians.⁴ Research has moved forward from that time, and this study identified four integrated programs between physicians and non-physicians, from articles published between 2015 and 2017. Although it is only a minority of articles, the presence of such programs suggests an increasing appreciation of the value of interprofessional networking in leadership training. In addition, the findings from this review showed that the majority of leadership development programs targeted participants of ages 30 years and older. Consistent with recent literature, there is an increased understanding of the value of cultivating leadership at a younger age to provide a foundation for further development.^{2,11,69}

The review has several potential limitations. First, the substantial heterogeneity among the study designs, the wide scope of participants, and the assortment of metrics used to identify impact precluded quantitative synthesis or meta-analysis of the data. Though these various factors may have limited the ability to draw more generalizable conclusions, this investigation provided the basis for a better understanding of the current state of global leadership programs in LMICs. Second, there is a possibility that limiting the search strategy to peer-reviewed literature may have introduced selection bias. Although selection bias was minimized in the study by

conducting a comprehensive search in five large academic databases and not excluding articles based on language, it is expected that not all leadership programs are taught as formal, structured courses, or are published in the literature. Therefore, this review likely underrepresents the subset of programs available. However, because the work was based on searchable publications in peer-reviewed journals, the stringency of the review process better ensures reliable data. Indeed, other databases, such as the Scientific Electronic Library Online (SciELO), which often cite Spanish and Portuguese publications, could reveal additional relevant articles.

In summary, a commitment to developing healthcare professionals' leadership capacity is critical for future success in the medical field. Leadership development programs for healthcare professionals can promote interprofessional networking, develop personal and professional skills, and ultimately improve the delivery of high-quality healthcare. The findings from this review identify gaps in leadership programs for certain groups of healthcare professionals from certain geographical regions, supporting the need for further provision of and participation in these opportunities in LMICs.

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491 **Figure Legend**

492 Figure 1. PRISMA Flow Diagram

493 Table 1. Overview of the 41 included articles