

A Multidimensional Evaluation of Palliative Care Research in Latin America: A SWOT Analysis from the Researcher's Perspective

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Abstract

Background: Despite the global mandate to integrate palliative care (PC) into health systems, research remains one of the least developed areas in Latin America. Understanding the factors that influence scientific production is essential for regional development.

Results. A total of 216 responses were obtained from 18 countries. Most participants (84%) perceived national research maturity as low or very low. Periodic national congresses (58.2%) were identified as the primary strength, while lack of economic incentives (87%), absence of research infrastructure (83.7%), and scarcity of expert mentors (81.7%) were the most significant weaknesses. Structural health system problems and territorial inequity reached 94.2% agreement as critical threats. The Positioning Matrix revealed that over 70% of the countries are in a "survival" quadrant, with internal capacity acting as the primary differentiator of research development.

Conclusion. The PC research ecosystem in Latin America is fragmented and characterized by a lack of institutional incentives. Strengthening internal research capacity and leveraging regional networks are priority strategies to reduce the scientific gap and achieve academic equity in the region.

Trial registration: Not applicable

Key Message

This study provides the first comprehensive multidimensional diagnosis of the palliative care research ecosystem across 18 Latin American countries. Our findings reveal a fragmented landscape where, despite a vibrant culture of scientific dissemination, the absence of formal institutional incentives and structural healthcare system barriers remain the primary inhibitors of scientific advancement. The results underscore that strengthening internal research capacities and fostering regional networks are essential strategies to move the region from a "survival" state toward scientific sovereignty and global academic equity.

Background

Palliative care (PC) is recognized by the World Health Assembly as an ethical responsibility of health systems and a core component of Universal Health Coverage. Despite this global mandate, equitable access remains a significant challenge, particularly in low- and middle-income regions such as Latin America and the Caribbean [1]. In this context, clinical and health systems research is essential to provide the evidence base needed to guide informed decision-making and improve the quality of life for patients with life-limiting illnesses [2]. Recent bibliometric evidence shows that while global PC research production grew nearly fivefold between 2002 and 2020, there is a marked asymmetry in its distribution [3]. Most academic output is concentrated in high-income countries, with limited collaboration between developed and developing nations. In Latin America, despite progress in regional cancer control initiatives, critical gaps persist, particularly a shortage of robust oncology and PC clinical trials compared to global standards [4].

The development of a sustainable research ecosystem requires more than just data production; it demands functional governance, adequate financing, capacity building, and the effective use of local evidence [2]. Current monitoring efforts, such as the Palliative Care Atlas of the Americas, highlight that while some countries have established national authorities, research remains one of the least developed indicators across the region [5]. To address these disparities, it is crucial to understand the internal strengths and external challenges of the research environment from the perspective of those conducting it.

This study is part of the strategic initiatives of the Latin American Observatory of Palliative Care (OLCP), reflecting its broader projection to construct regional diagnoses and actionable plans in areas that facilitate the development of PC. Therefore, this study aims to perform a Strengths, Weaknesses, Opportunities, and Threats (SWOT) analysis of PC research in Latin America. By identifying these factors from the researchers' perspective, this work seeks to provide an empirical foundation for strengthening national health research systems and improving PC integration throughout the region.

Methods

Study Design

We conducted a descriptive, cross-sectional study using a two-phase sequential approach to identify the internal and external factors influencing palliative care (PC) research in Latin America. The study framework was based on the four functions of national health research systems proposed by the World Health Organization: governance, financing, capacity building, and the production and use of evidence (1).

To ensure analytical rigor and avoid subjective classification bias, internal and external factors were strictly delineated prior to data collection based on organizational theory. Internal factors (Strengths and Weaknesses) were defined as structural, financial, or human resource characteristics inherent to the local PC research community and its immediate institutions. External factors (Opportunities and Threats) were defined as independent, macro-level variables outside the direct control of researchers, such as national healthcare legislation, macroeconomic shifts, or regional public policies.

Phase 1: Interprofessional Co-creation and Survey Development

The first phase consisted of a virtual co-creation workshop aimed at identifying the primary dimensions for a SWOT (Strengths, Weaknesses, Opportunities, and Threats) matrix.

Eligibility Criteria and Sampling

A purposive sample of interprofessional PC researchers from Latin America was invited. To be eligible, participants were required to meet at least one of the following inclusion criteria:

1. Hold an academic appointment or affiliation with a research institution in the region.
2. Have published at least one peer-reviewed article or abstract related to PC within the last five years.
3. Be actively involved in leading or coordinating clinical trials or institutional PC protocols.

A total of 22 eligible researchers were invited via email, of whom 13 agreed to participate (yielding a 59% participation rate).

Data Collection and Analysis

The session was conducted via the MIRO® online collaborative platform, where participants performed a multidimensional evaluation of clinical and academic research challenges. Data from Phase 1 were analyzed using thematic analysis; two independent researchers coded the inputs from the MIRO® board to identify recurring themes. This process resulted in the identification of 30 strategic categories, comprising 10 Strengths, 6 Weaknesses, 6 Opportunities, and 8 Threats which were used in their entirety to develop the quantitative data collection survey for the subsequent phase.

Phase 2: Regional Survey and Participant Selection

Survey Structure and Eligibility

In the second phase, the 30 categories identified in Phase 1 were structured into a digital survey utilizing a 5-point Likert scale (supplemental material 01). Recruitment was conducted through an open invitation disseminated via email and newsletters by the Latin American Association for Palliative Care (ALCP) to its associates across the region.

Eligible participants for Phase 2 were required to be active healthcare professionals, academics, or policymakers with direct involvement in PC clinical practice, education, or administration in a Latin American country. Given the anonymous nature of the study, participants were asked to act as key informants representing their respective countries, providing their expert perspective on the status of their national research ecosystems. Informed consent was obtained electronically before the start of data collection, ensuring the confidentiality of individual responses.

Phase 2: Sample, Data Collection, and National Ecosystem Analysis

The digital survey invitation was disseminated through a targeted approach to the 18 national palliative care associations in Latin America, as well as to individual members of the Latin American Association for Palliative Care (ALCP). Due to the observational, regional, and voluntary-participation design of the study, a global response rate was not calculated; instead, priority was given to maximizing the geographic diversity and regional representativeness of the key informants.

In total, the study collected 216 survey entries from 208 unique participants. To reconcile this difference, the survey architecture was configured so that professionals with concurrent clinical practice or institutional affiliations in more than one country within the region could submit independent assessments for each specific national ecosystem. Because the primary unit of analysis for this study is the national research ecosystem rather than the individual respondent, these additional entries were treated as independent, valid, and methodologically distinct data points for their respective countries.

The final sample sizes varied heterogeneously among the included countries. This variability does not represent a selection bias; rather, it faithfully reflects the real-world asymmetries and intrinsic characteristics of the clinical and research palliative care ecosystems within each nation, where the volume of active professionals and researchers differs significantly across the region. Given that the Strategic Positioning Matrix scores and evaluates each country specifically and independently using its Net Perception Index, the disparity in the total number of responses per territory does not compromise the validity of the analysis, ensuring that each national ecosystem is appraised strictly against its own internal and external dynamics.

Data Analysis and Strategic Positioning Matrix

To facilitate quantitative analysis, the qualitative responses gathered through the 5-point Likert scale were transformed into a numerical continuum by assigning values of +2 for "Strongly Agree," +1 for "Agree," 0 for "Neither Agree nor Disagree," -1 for "Disagree," and -2 for "Strongly Disagree." A Mean Score was subsequently calculated for each individual item to establish a standardized Net Perception Index, which allowed for direct comparisons across different countries and professional groups. The overall status of each national research ecosystem was then determined by developing a Strategic Positioning Matrix based on two distinct composite indicators. The horizontal coordinate, representing the Internal Balance (X-axis), was defined as the net difference between the mean scores of Strengths (S) and Weaknesses (W), expressed mathematically as "Internal Balance" being equal to the mean score of Strengths minus the mean score of Weaknesses. Conversely, the vertical coordinate, representing the External Balance (Y-axis), was calculated as the net difference between the mean scores of Opportunities (O) and Threats (T), expressed as "External Balance" being equal to the mean score of Opportunities minus the mean score of Threats.

The intersection of these two analytical axes divided the Cartesian plane into four distinct quadrants that defined the strategic posture of each country as "Strategic-Potential," "Reorganization-Challenge," "Reactive-Vulnerable," or "Critical-Survival". To address the apparent paradox between the low absolute baseline of research output reported by participants and the quantitative positioning of certain countries within these quadrants, it is critical to note that the

matrix evaluates the relative balance of perceived structural drivers against barriers, rather than absolute production volumes. Consequently, an ecosystem can be positioned within a favorable or potential quadrant due to strong emerging opportunities or specific institutional strengths, even if its overall baseline of research activity remains low. All data processing, statistical calculations, and subsequent graphical rendering were executed using Python 3.x with the pandas and matplotlib libraries, applying a manual heuristic adjustment solely for label positioning within the final plot to prevent overlapping and ensure the legibility of regional clusters. Finally, Cuba was excluded from this strategic matrix analysis because the limited number of responses obtained from that nation was deemed insufficient to guarantee a representative national sample, thereby preventing a mathematically reliable calculation of its Net Perception Index.

Results

Phase 1: Dimensions of the Palliative Care Research Ecosystem

The interprofessional co-creation session conducted via the MIRO platform identified 30 strategic items defining the palliative care (PC) research ecosystem in Latin America. These factors were categorized into a SWOT matrix comprising 10 Strengths, 6 Weaknesses, 6 Opportunities, and 8 Threats (Table 1), which served as the conceptual basis for the regional validation instrument.

Table 1
SWOT Matrix of Palliative Care Research in Latin America (Phase I).

Internal Factors (Capacities)	External Factors (Environment)
STRENGTHS	OPPORTUNITIES
S1. Established research groups.	O1. International collaboration.
S2. Local knowledge-generation hubs.	O2. Emerging technologies & Big Data.
S3. Increased national publications.	O3. Research in rural/diverse populations.
S4. Regional collaboration networks.	O4. PC integration in Universal Health Coverage.
S5. Culture of scientific dissemination.	O5. International interest in regional data.
S6. Active participation in associations.	O6. Scientific sovereignty & local responses.
S7. Growing interest in early-career professionals.	
S8. Experienced clinical leadership.	
S9. Availability of clinical data.	
S10. Ethical and regulatory recognition.	
WEAKNESSES	THREATS
W1. Lack of economic incentives/funding.	T1. Structural health system barriers.
W2. Absence of formal infrastructure.	T2. Marked territorial/urban-rural inequity.
W3. Scarcity of mentors/doctoral programs.	T3. Diversion of funds to other priorities.
W4. Limited methodological capacity.	T4. Political instability and project discontinuity.
W5. Predominance of descriptive studies.	T5. Brain drain (migration of researchers).
W6. Excessive clinical workload.	T6. Low visibility of regional research.
	T7. Over-dependence on Global North models.
	T8. Regulatory limits for clinical trials.

Table 2
Detailed Research Strengths and weaknesses by Country (Mean Scores)

SWOT Item	Chile	El Salvador	Uruguay	Costa Rica	Honduras	Argentina	Ecuador	Panamá	Colombia	México	Perú	Paraguay
STRENGTHS												
S1. Established research groups.	+ 1,22	+ 0,62	+ 0,24	+ 0,50	+ 0,25	+ 0,80	-0,08	+ 0,44	+ 0,26	+ 0,42	-0,59	+ 0,75
S2. Local knowledge-generation hubs.	-0,44	-1,15	-0,88	-0,38	-1,75	-0,45	-0,92	-0,89	-0,63	-1,00	-1,00	-1,00
S3. Increased national publications.	-0,11	+ 0,15	-0,82	-0,62	0,00	-0,45	-1,31	-0,22	-0,32	-0,47	-0,88	0,00
S4. Regional collaboration networks.	+ 0,44	+ 0,54	-0,41	-0,38	+ 0,25	-0,70	+ 0,08	0,00	+ 0,37	-0,89	-0,65	+ 0,25
S5. Culture of scientific dissemination.	+ 0,56	-0,15	-0,18	+ 0,12	+ 0,25	-0,10	+ 0,54	-0,78	-0,21	0,00	-0,82	0,00
S6. Active participation in associations.	-0,44	+ 0,46	-0,41	-0,50	+ 0,50	-0,90	-0,92	-0,22	-0,05	-0,79	-0,47	-0,25
S7. Growing interest in early-career professionals.	+ 0,11	+ 0,69	-0,24	0,00	+ 0,75	+ 0,50	+ 0,08	-0,33	+ 0,68	+ 0,37	-0,29	+ 0,50
S8. Experienced clinical leadership.	+ 0,56	+ 0,46	+ 0,53	+ 0,75	0,00	+ 0,30	+ 0,23	+ 0,11	-0,68	-0,21	+ 0,41	-1,00
S9. Availability of clinical data.	-0,33	-0,15	-0,06	+ 0,25	+ 0,75	-1,05	+ 0,62	-1,00	-0,32	-0,05	-0,47	-0,50
S10. Ethical and regulatory recognition.	+ 0,56	-0,54	+ 1,06	+ 0,25	+ 0,50	+ 0,35	-0,15	-0,33	+ 0,21	+ 0,89	+ 0,41	-0,25
WEAKNESSES												
W1. Lack of economic incentives/funding.	-0,56	+ 0,23	+ 0,71	-0,12	+ 0,50	0,00	+ 0,69	+ 0,22	+ 0,68	+ 0,26	+ 0,24	+ 1,00
W2. Absence of formal infrastructure.	0,00	-0,38	+ 0,18	+ 0,50	+ 1,00	+ 0,65	+ 0,23	+ 0,56	+ 0,74	+ 0,42	+ 0,59	+ 0,75
W3. Scarcity of mentors/doctoral programs.	+ 0,22	+ 0,38	-0,41	+ 0,12	+ 1,25	-0,20	+ 0,08	+ 0,33	+ 0,16	+ 0,16	+ 0,29	0,00
W4. Limited methodological capacity.	+ 1,67	+ 1,23	+ 1,24	+ 0,75	+ 1,25	+ 1,20	+ 0,77	+ 1,22	+ 1,05	+ 1,05	+ 1,00	+ 1,50
W5. Predominance of descriptive studies.	+ 0,56	+ 1,31	+ 0,53	+ 0,50	+ 0,75	+ 1,10	+ 0,92	+ 0,78	+ 1,11	+ 0,79	+ 0,53	+ 0,75
W6. Excessive clinical workload.	+ 0,78	+ 1,31	-0,12	+ 0,50	+ 1,50	+ 1,05	+ 0,92	+ 1,00	+ 1,11	+ 1,21	+ 1,24	+ 1,00

Table 03
Detailed Research Opportunities and threats by Country (Mean Scores)

SWOT Item	Chile	El Salvador	Uruguay	Costa Rica	Honduras	Argentina	Ecuador	Panama	Colombia	Mexico	Peru	Paraguay
OPPORTUNITIES												
O1. International collaboration.	+ 1,00	+ 0,69	+ 1,06	+ 0,75	+ 1,50	+ 0,85	+ 0,85	+ 0,44	+ 1,00	+ 1,05	+ 0,71	+ 1,00
O2. Emerging technologies & Big Data.	+ 0,67	+ 1,31	+ 0,76	+ 0,25	+ 2,00	+ 0,70	+ 1,31	+ 1,11	+ 1,26	+ 1,53	+ 0,76	+ 1,25
O3. Research in rural/diverse populations.	+ 1,33	+ 1,00	+ 0,94	+ 0,38	+ 2,00	+ 0,55	+ 1,38	+ 1,00	+ 1,53	+ 1,11	+ 0,94	+ 0,50
O4. PC integration in Universal Health Coverage.	+ 1,67	+ 1,46	+ 0,82	+ 0,50	+ 1,75	+ 1,35	+ 1,08	+ 1,22	+ 1,53	+ 1,37	+ 1,00	+ 1,50
O5. International interest in regional data.	+ 1,67	+ 1,54	+ 0,82	+ 0,50	+ 2,00	+ 1,35	+ 0,85	+ 1,22	+ 1,53	+ 1,32	+ 1,06	+ 1,25
O6. Scientific sovereignty & local responses.	+ 1,67	+ 0,77	+ 0,82	+ 0,88	+ 2,00	+ 1,05	+ 1,08	+ 1,00	+ 1,53	+ 1,16	+ 0,59	+ 0,50
THREATS												
T1. Structural health system barriers.	-0,11	+ 0,15	+ 0,24	+ 0,50	+ 1,25	+ 0,35	+ 1,00	+ 0,44	+ 1,32	+ 1,32	+ 0,35	+ 1,25
T2. Marked territorial/urban-rural inequity.	+ 1,33	+ 1,15	+ 1,41	+ 0,62	+ 2,00	+ 1,15	+ 1,38	+ 1,00	+ 1,63	+ 1,32	+ 1,06	+ 1,50
T3. Diversion of funds to other priorities.	+ 1,67	+ 0,69	+ 0,94	+ 0,62	+ 1,75	+ 1,15	+ 1,38	+ 1,00	+ 1,47	+ 1,74	+ 1,06	+ 1,25
T4. Political instability and project discontinuity.	+ 0,56	+ 1,08	+ 0,65	+ 0,25	+ 1,50	+ 0,45	+ 1,08	+ 1,11	+ 1,47	+ 1,05	+ 0,65	+ 0,75
T5. Brain drain (migration of researchers).	+ 1,33	+ 1,08	+ 1,18	+ 1,12	+ 1,75	+ 1,05	+ 0,85	+ 1,22	+ 1,47	+ 1,63	+ 1,00	+ 1,50
T6. Low visibility of regional research.	+ 0,56	+ 0,69	+ 1,00	+ 0,88	+ 1,50	+ 1,15	+ 1,62	+ 0,89	+ 1,47	+ 1,37	+ 0,94	+ 1,50

Thematic Analysis of SWOT Categories

The thematic analysis of strengths revealed a robust foundation of human capital and academic infrastructure. Experts highlighted a growing base of advanced human capital and the leadership of postgraduate programs, particularly specialized doctorates and master's degrees with current qualified registration (Items 4, 9). The existence of formally constituted research groups and active scientific societies was identified as an internal pillar for networking and professional development (Items 1, 7, 10). Furthermore, specialized clinical centers were recognized as critical nodes for local data collection and evidence generation (Item 8). This maturity is reflected in a sustained increase in publication volume, supported by emerging national agendas and accessible, albeit limited, funding mechanisms (Items 2, 5, 6).

Internal barriers centered on the quality of evidence and professional disincentives. Findings indicated a predominance of low-level evidence, mainly composed of descriptive studies and case reviews with limited international scope (Items 1, 2). Structurally, there is a shortage of centers with formal research frameworks, particularly in pediatric primary care, and a limited research culture (Item 6). This environment is exacerbated by a lack of formal recognition or incentives for clinical staff conducting research, a shortage of expert mentors to guide high-quality scientific work, and a lack of multidisciplinary training (Items 4, 5, 7). Finally, ethical and administrative obstacles remain significant bottlenecks for initiating new projects (Item 3).

External catalysts were characterized by innovation and clinical integration. The growing palliative care needs of the population were identified as a natural driver for health services research (Item 2). The trend toward evidence-based practice and the integration of primary care in oncology, pediatrics, and chronic diseases provides unique opportunities to diversify research lines and strengthen education and training (Items 3, 4). Furthermore, international platforms

and a focus on cultural equity were highlighted as ways to strengthen global integration (Items 1, 5). An emerging theme was the potential of Big Data, artificial intelligence (AI), and digital health as new frontiers for generating regional knowledge and strengthening training programs (Item 6).

The threats reflect external vulnerabilities that compromise scientific sustainability. Regulatory uncertainty and brain drain are identified as critical risks to the continuity of long-term projects (Items 1, 2). Structural failures of the health system and the reduction of public funding—often diverted to emerging social agendas—weaken institutional support for primary care (Items 3, 4, 5). Culturally, trends such as opioid phobia continue to hinder the clinical research needed for symptom management (Item 6). Finally, marked geographical inequality, with research concentrated in urban centers, the low visibility of Latin American research output globally, and the prioritization of other research agendas act as significant barriers to national scientific progress (Items 7, 8).

Instrument Development

Based on these 30 thematically analyzed items, a structured 5-point Likert scale instrument was developed. This survey was subsequently distributed to leading corresponding authors in each Latin American country for Phase 2, allowing for the quantification of consensus regarding these factors and their impact on the region's research development (Supplementary Material 01).

Phase 2: Participant Description

A total of 216 responses were collected from 208 participants, with the number varying by country. Eight people declined to participate. The main profiles included clinicians with scientific activity ($n = 118$, 56.7%), academic/researchers ($n = 62$, 29.8%), public policy managers ($n = 19$, 9.1%), and representatives of scientific societies ($n = 9$, 4.3%). Eighteen of the 20 countries in the region were represented, excluding Haiti and the Dominican Republic. Brazil provided the highest number of contributions ($n = 29$, 13.94%), followed by Argentina ($n = 20$, 9.62%), and Colombia and Mexico ($n = 19$ each, 9.13%). The lowest-represented countries were Honduras, Nicaragua, Paraguay, and Guatemala, each with 4 participants (1.92%), and Cuba, with 2 participants (0.96%).

Self-Perception and Analysis per Category

Regarding self-perception, 84% of participants perceive a low or very low level of research maturity in their country, underscoring the relevance of the identified weaknesses and threats. Regionally, the most perceived strength was the presence of periodic national scientific congresses or meetings (58.2%). At the country level, Chile was self-perceived as the strongest (overall net Likert score + 0.211), driven by active community groups and societies. Funding was a critical negative factor; only Guatemala identified funding resources as a positive item (+ 0.25), while it was strongly negative in Bolivia (-2.00), Honduras (-1.75), and Venezuela (-1.50). National scientific journals were weakly positive in El Salvador (+ 0.15) and Guatemala (+ 0.50), while academic meetings were not perceived as strengths in El Salvador (-0.54), Ecuador (-0.15), Panama (-0.33), or Paraguay (-0.25).

Three weaknesses exceeded 80% agreement: lack of explicit economic incentives (87%), lack of research-ready centers (83.7%), and absence of expert tutors (81.7%). Venezuela showed the weakest profile, endorsing 87.5% of weakness items. Notably, Chile (-0.56) and Costa Rica (-0.12) perceived low-level research as a weakness. Integration of PC in multiple clinical scenarios reached 88.9% consensus as a primary opportunity. The only country reporting a negative item for ethnic/social expansion was Venezuela (-0.12). Two threats reached 94.2% agreement: structural health system problems and territorial inequity. Chile (-0.11) did not perceive regulatory changes as a significant threat, whereas Honduras, Guatemala (+ 1.75), and Mexico (+ 1.74) identified the reduction of funding as a critical threat.

Positioning Matrix Analysis and Regional Archetypes

Derived from Likert scores, a two-axis SWOT strategic positioning matrix revealed that over 70% of countries are in the survival quadrant (Fig. 1). The X-axis differentiation suggests that internal capacity is the predominant differentiating factor. Brazil emerged as the leading outlier in the Strategic/Potential quadrant, demonstrating robust infrastructure. A cluster including Mexico, Colombia, Ecuador, Panama, and Peru was situated in the Reorganization/Challenge quadrant, exhibiting awareness of opportunities but constrained by internal weaknesses. Mexico showed a relative decoupling, while Ecuador and Peru were consistently below partners. The Critical/Survival quadrant included Venezuela, Cuba, Nicaragua, and Bolivia, facing dual burdens of internal deficiencies and hostile external environments. Honduras's position below El Salvador underscores a deepening crisis in certain Central American contexts. Findings indicate that "Lack of Incentives" and "Structural System Problems" remain the primary inhibitors of scientific advancement in PC across Latin America.

Discussion

The analysis of internal and external factors influencing palliative care (PC) research in Latin America reveals a paradox where a growing academic infrastructure contrasts with limited scientific impact and significant challenges in achieving methodological maturity. This situational diagnosis aligns with critical points of convergence reported in regional and global literature. The identification of strengths, such as established research groups, specialized knowledge-generating centers, and a sustained increase in national publications, suggests that networks and alliances are key facilitators of PC research, as previously proposed by Tripodoro [5]. However, these strengths coexist with weaknesses related to the quality and scope of research, where descriptive and local studies predominate. This reflects a persistent need to improve resources and knowledge to translate regional evidence into generalizable changes in clinical practice [6, 7]. For instance, in Mexico, despite regulatory advances, the lack of a real strategy for research and dissemination remains a major barrier [8]. International collaborative work emerges as the most potent mechanism to increase regional research impact and citation frequency, transcending local boundaries [9]. Furthermore, expanding research toward diverse ethnic and social groups with an equity lens is a documented necessity. The current concentration of services in urban areas [10] creates a marked inequity that must be addressed by science, advocating for a regional research agenda adapted to local needs that includes rural and marginalized populations [11, 12].

The threats identified reflect a deep understanding of the Latin American context, where structural problems in health systems and urban-rural disparities hinder PC integration [10, 11]. The diversion of public funds to emerging priorities is a constant threat that leaves PC research vulnerable to political shifts, unlike the stable environments of high-income countries where scientific production correlates with better quality-of-death indices [13]. Interconnected threats such as "brain drain" and low visibility desincentivize national production [14, 15], making integration into global networks and the use of technologies like Big Data essential to counteract geographical barriers [16, 17]. These findings support the hypothesis of a marked asymmetry in the perception of PC research production within the "Global South," revealing a "state of fragmentation" in the continent's ecosystem. This perception must be analyzed contextually, taking into account research delays and difficulties in technology implementation, as described by ECLAC regarding investment gaps in the region [18].

While a positive perception exists regarding the culture of academic dissemination through national meetings and professional associations [5, 19], significant disparities in funding suggest that the region operates as a map of inequalities rather than a uniform block. Research efforts are often voluntary rather than protected activities, leading to burnout among clinical teams working under difficult conditions [5]. This imbalance fosters a dependence on scientific knowledge from the "Global North," which frequently overlooks the sociocultural particularities of Latin American populations. This is underscored by the fact that research hegemony on the continent remains concentrated in Canada and the United States [5], while in the rest of the region, professional participation in research remains limited; studies indicate that nearly half of PC professionals in Latin America have never participated in a research project [19]. Regulatory limitations also stall the development of robust clinical trials, as only a minority of countries include PC in their General Health Laws [5]. Inequity in PC is not merely a matter of medication access [20] but a lack of scientific sovereignty. Without conditions that promote the career of the PC researcher, solutions will continue to be imported for problems that require local responses.

This need for structural organization is strongly supported by recent regional evidence. In a Delphi consensus study conducted by the Los PamPAS Research Group, Paiva et al. (2023) [21] identified that the primary barriers to scientific development in South America include a severe lack of funding, scarce trained professionals, and deficient infrastructure. To overcome these challenges, regional experts emphasized that progress depends heavily on the establishment of collaborative research networks, the creation of centers of excellence to act as regional catalysts and lobbying governmental organizations to secure protected time and funding for clinician-researchers. Interestingly, while Paiva et al. (2023) [21] identified symptom control, public policies, and PC in primary care as top regional research priorities, our quantitative positioning matrix reveals that the relative balance of perceived structural drivers can still position certain countries in favorable quadrants despite a low absolute baseline of research output. These findings highlight that while the region possesses the strategic willingness and collaborative potential to advance, it lacks the formal mechanisms, government lobbying, and infrastructure required to transform this potential into scalable scientific production.

This study has certain limitations that must be acknowledged. Although the research did not aim for a specific number of participants per country, there was marked heterogeneity in the number of representatives per nation, which could condition the generalization of the findings. Regarding future lines of research, projects should approach this phenomenon from a multidimensional perspective, integrating structural variables—such as Gross Domestic Product (GDP), public health spending, and Research and Development (R&D) investment—as determinants of scientific production [5]. It is a priority to transcend regional self-assessment and establish comparisons with other low- and middle-income countries, such as the Philippines, using quantifiable criteria like the number of publications per decade [22]. Only through this comprehensive approach can we decipher the complex web of factors that perpetuates the scientific gap and design intervention strategies that promote real academic equity.

Declarations

Ethics approval and consent to participate

The study protocol was reviewed and formally approved by the ad hoc Ethics Research Committee of the Doctoral Program in Palliative Care at Universidad El Bosque (Bogotá, Colombia), as documented in Minutes 001 of 2026. This ad hoc committee classified the study as risk-free research because participants were invited exclusively in their capacity as key experts to assess national ecosystems, rather than from a personal perspective. Consequently, no individual clinical interventions were performed, and no personal or sensitive variables were explored. All procedures were conducted in strict accordance with relevant guidelines and the ethical principles of the Declaration of Helsinki. Informed consent was obtained electronically from all interprofessional researchers in Phase 1 and from all key informants in Phase 2 prior to data collection.

Consent for publication

Not applicable. The manuscript does not contain any individual person's data, images, or videos in a form that requires individual consent for publication.

Availability of data and material

The datasets used and analyzed during the current study are available from the corresponding author on reasonable request.

Competing interests

The authors declare that there are no conflicts of interest related to the publication of this manuscript.

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Authors' contributions

MASC and MXLD were responsible for the conceptualisation and methodology of the study. Data collection was performed by PMR, MASC, PMBF, CCLLC, MACB, JALA, and JCUC. Data analysis was conducted by MASC, PMBF, CCLLC, MACB, JALA, and JCUC. All authors have reviewed and approved the final version of the manuscript.

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Figures

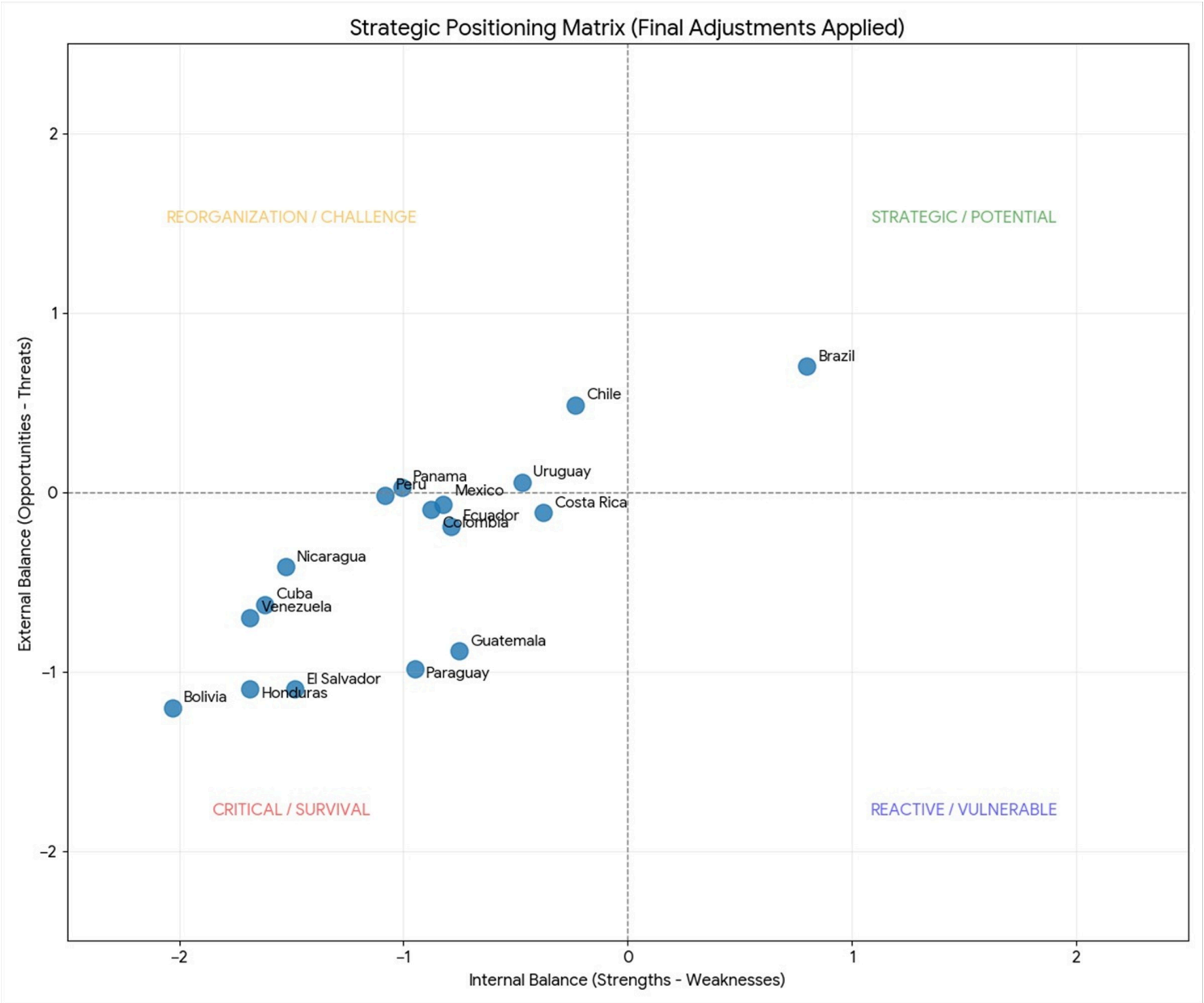


Figure 1

Legend not included with this version