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Original article

From Institutional Output to Networked Research: A Decade of Research-System Transformation at Pravara Institute of Medical Sciences, India, 2015–2024- A comparative bibliometric analysis of Dimensions, Scopus and Web of Science, 2015–2024

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Abstract

Background: *Institutional research performance is increasingly evaluated through multidimensional indicators encompassing productivity, scholarly visibility, collaboration, authorship patterns and the structure of knowledge production. Because Dimensions, Scopus and Web of Science differ in coverage and document composition, the database used can materially influence the apparent research profile of an institution. This study examined the evolution of research at Pravara Institute of Medical Sciences (Deemed to be University) (PIMS-DU), India, during 2015–2024.* ***Methods:*** *A retrospective longitudinal bibliometric study was undertaken using institutional Biblioshiny reports for Dimensions, Scopus and Web of Science, together with record-level Dimensions and Scopus exports. Bibliographic data were retrieved in May 2025 using iterative combinations of institutional name variants and affiliated-unit identifiers. Publications were restricted to 2015–2024 and compared across 2015–2019 and 2020–2024. Indicators included annual production, sources, citations, authorship, international collaboration, source diversification, country participation and conceptual structure. DOI and normalized-title matching were used for Scopus–Dimensions linkage; the supplied WoS Biblioshiny cohort was retained for descriptive WoS analysis.* ***Results:*** *The database-specific analytical datasets comprised 480 Dimensions records, 362 Scopus records and a 127-record Web of Science descriptive cohort for 2015–2024. Documents increased from 138 to 342 in Dimensions, 107 to 255 in Scopus and 24 to 103 in Web of Science. International co-authorship increased from 7.97% to 22.22% in Dimensions, 9.35% to 27.84% in Scopus and 37.50% to 72.82% in Web of Science. Mean co-authors per document increased particularly sharply in Web of Science (5.88 to 73.7) and Scopus (3.87 to 35.8), whereas the Scopus record-level median increased only from 4 to 5 authors, indicating a pronounced hyper-authored tail. Mean citations per document also differed markedly across databases. The later period showed broader source, country and conceptual diversification and greater participation in highly visible international research networks.* ***Conclusion:*** *PIMS-DU underwent a multidimensional research-system transformation rather than simple publication growth. The research ecosystem became more internationally connected and conceptually diversified while predominantly small research teams alongside selective participation in hyper-authored global consortia. The divergent profiles produced by Dimensions, Scopus and Web of Science demonstrate that institutional bibliometric assessment is database-dependent. Responsible evaluation should therefore triangulate bibliographic sources and interpret productivity, collaboration, authorship and citation indicators within their database, disciplinary and temporal context.*

Keywords: *Research evaluation; Bibliometric analysis; Institutional research assessment*

1. Introduction

Research productivity has become a central component of institutional development in universities and academic health centers. Contemporary evaluation increasingly considers not only the number of publications but also scholarly influence, collaboration, disciplinary breadth, research leadership and broader research impact. Bibliometric analysis offers a rigorous means of analyzing large scientific datasets and identifying the evolution and structure of research activity.[1]

At institutional level, publication counts indicate research activity, whereas citation indicators provide information about scholarly visibility and influence. Collaboration indicators reveal the extent to which researchers participate in national and

international knowledge networks. However, quantitative indicators require contextual interpretation. The Leiden Manifesto emphasizes that metrics should support, rather than replace, expert assessment and should account for disciplinary, temporal and institutional differences.[2]

The Bibliometrix R package and Biblioshiny interface provide an established framework for science mapping, including performance analysis of sources, authors and documents and analysis of conceptual, intellectual and social structures.[3]

Database selection is an additional methodological issue. Dimensions, Scopus and Web of Science differ in journal coverage, document types, affiliation metadata and citation-link structures. Comparative research has demonstrated meaningful database-induced differences in research-output volume, coverage and citation-based assessments.[4-6] Consequently, comparing the same institutional research profile across multiple databases can reveal both the robustness of a finding and the dimensions of research activity that become more or less visible under different indexing systems.

PIMS-DU provides an informative setting for longitudinal institutional bibliometric assessment because its academic ecosystem encompasses medicine, dentistry, nursing, public health, allied health and related disciplines. The present study examines 2015–2024 and compares 2015–2019 with 2020–2024 to determine whether the latter period represents simple quantitative growth or a deeper change in the architecture of institutional research.

Conceptual proposition

The study was guided by the conceptual proposition that the research trajectory of PIMS-DU during 2015–2024 represented a transition toward a more productive, internationally connected, multidisciplinary and globally visible research ecosystem.

2. Review of Literature

2.1 Bibliometrics and institutional research evaluation

Bibliometrics has developed from simple publication and citation counting into a multidimensional approach for examining scientific production, dissemination, intellectual structure and research networks. Performance analysis can identify productive authors, institutions and sources, whereas science mapping can reveal relationships among publications, authors, institutions, countries and research themes.[1,3]

For institutional research evaluation, bibliometric indicators are useful for monitoring research activity and scholarly visibility, but they should not be treated as direct or complete measures of research quality. Citation indicators are influenced by field, document type, publication age, collaboration structure and citation practices, and they capture only selected dimensions of research influence.[2,13] The Leiden Manifesto, DORA and the Agreement on Reforming Research Assessment therefore emphasize contextualized, transparent and responsible use of quantitative indicators alongside expert qualitative judgement.[2,7,8]

2.2 Collaboration and research impact

Research collaboration has become increasingly important as health research increasingly requires multidisciplinary expertise, larger datasets and cross-institutional infrastructure. International collaboration is often associated with greater citation visibility, but the strength and direction of this association vary by country and field; collaboration should therefore be interpreted as a structural characteristic rather than as a universal proxy for research quality.[9-12]

From an institutional perspective, an increase in international co-authorship can therefore indicate more than a change in authorship statistics. It may reflect integration into wider research networks and access to scientific expertise, datasets and collaborative infrastructures beyond the institution.

2.3 Dimensions, Scopus and Web of Science as complementary bibliographic sources

Dimensions was introduced as a broad research-information platform and has been evaluated as a complement to established bibliographic databases. Scopus and Web of Science remain major sources for bibliometric analysis, while comparative studies demonstrate substantial differences in journal coverage, document types, disciplinary representation and citation-link structures across all three databases.[4-6] Singh et al. showed that the three databases have materially different journal coverage and can produce database-induced differences in research-output volume and global share, while Guerrero-Bote et al. demonstrated complementary but non-identical coverage between Dimensions and Scopus.[4-6] These findings support treating Dimensions, Scopus and Web of Science as complementary observational lenses rather than interchangeable measures of a single institutional output.

For institutional research evaluation, triangulation is particularly valuable when a portfolio spans clinical medicine, dentistry, public health, allied health and multidisciplinary research. A three-database design can distinguish robust patterns that recur across databases from database-specific signals that require cautious interpretation. This distinction is especially

important when comparing citation counts, international collaboration and authorship because these indicators are sensitive to database coverage, publication age and highly collaborative consortium papers.[9-12]

3. Methods

3.1 Study design and period

A retrospective longitudinal bibliometric study was conducted for publications associated with PIMS-DU during 1 January 2015 to 31 December 2024. The decade was divided into 2015–2019 and 2020–2024, consistent with the Biblioshiny reports as a descriptive temporal comparison rather than as a causal intervention period.

3.2 Data sources

Data retrieval and search strategy: Bibliographic data were retrieved in May 2025 from Dimensions, Scopus and Web of Science (WoS) for the period 1 January 2015 to 31 December 2024. Institution-specific searches used iterative combinations of institutional name variants and affiliated-unit identifiers, including "Pravara Institute of Medical Sciences – Deemed to be University," "PIMS-DU," "Rural Medical College," "Rural Dental College," and "Pravara Medical Trust." Database-specific search functionality and field structures were used to maximize retrieval while maintaining institutional specificity. In WoS, the Advanced Search Query Builder was used with the Affiliation/Organizations fields and Boolean operators, followed by restriction to the predefined publication period. Retrieved records were cross-verified using DOI information and individually checked for institutional affiliation and eligibility. In Scopus, searches were conducted using Affiliation/Organization fields with Boolean operators and the specified publication period, followed by author- and affiliation-level verification. In Dimensions, the Affiliations, Publication Year and Researcher filters were applied, followed by record-level verification. The searches were rerun multiple times to assess retrieval consistency, and records were cross-checked before construction of the final database-specific analytical cohorts. Records outside the study period or not attributable to PIMS-DU were excluded. Although retrieval occurred in May 2025, 2025 publications were excluded from the analytical dataset. The three databases were retained as separate analytical cohorts because their indexing coverage, affiliation structures and bibliographic metadata are not directly equivalent.

Three bibliographic sources were analyzed: Dimensions, Scopus and Web of Science (WoS). The institutional Biblioshiny reports were treated as the primary source for database-level descriptive indicators. Dimensions and Scopus reports included annual scientific production, citation indicators, source productivity, author productivity and impact, affiliations, country production, international collaboration and highly cited documents. The supplied WoS Biblioshiny workbook contained corresponding main-information, annual-production, annual-citation, source, author, affiliation, country, highly cited-document, keyword, factorial-analysis and international-collaboration outputs. The analytical period was restricted to 1 January 2015 through 31 December 2024; 2025 records present in the raw exports were excluded.

For record-level analysis, the supplied Dimensions and Scopus exports were cleaned and restricted to 2015–2024. The database-specific analytical cohorts comprised 480 Dimensions records, 362 Scopus records and 127 Web of Science records. These cohorts were analyzed as database-specific populations and were not treated as mutually identical or directly mergeable datasets. DOI matching followed by normalized-title matching was used for exploratory linkage of the Dimensions and Scopus datasets; no pooled three-database dataset was constructed. The supplied Web of Science Biblioshiny report was used as the authoritative descriptive WoS cohort (24 records in 2015–2019 and 103 in 2020–2024); because the raw WoS export did not map cleanly to this 127-record descriptive cohort, WoS record-level overlap was not forced.

3.3 Bibliometric indicators

Indicators examined included annual scientific production; document and source counts; annual growth; document age; mean citations per document; author counts; mean co-authors per document; international co-authorship; source diversification; author productivity and impact; institutional affiliations; country production; highly cited documents; author keywords and Keywords Plus; and database-specific differences. Because mean authorship can be distorted by consortium papers, record-level Scopus medians and the distribution of authors per document were examined separately. An exploratory citation-association model was retained as a Scopus-specific analysis and was not generalized to the other databases.

3.4 Software and analytical framework

The analytical framework was based on Bibliometrix/Biblioshiny, an R-based open-source environment for performance analysis and science mapping.[3] Database-specific descriptive indicators were preserved rather than pooled into a single composite score. This was intentional because the three databases differ in coverage and document composition.[6]

4. Results

Table 1. Comparative bibliometric profile of PIMS-DU across Dimensions, Scopus and Web of Science, 2015–2019 versus 2020–2024.

Indicator	Dimensions 2015–19	Dimensions 2020–24	Scopus 2015–19	Scopus 2020–24	Web of Science 2015–19	Web of Science 2020–24
Sources	85	150	55	122	20	60
Documents	138	342	107	255	24	103
Annual growth (%)	-4.02	14.67	-13.82	10.67	-9.64	46.65
Document average age	8.14	2.63	8.33	2.71	8.29	2.24
Mean citations per document	17.64	6.032	7.57	22.17	10.38	33.22
Authors	488	1706	312	4037	131	4626
Co-authors per document	4.4	6.37	3.87	35.8	5.88	73.7
International co-authorship (%)	7.971	22.22	9.346	27.84	37.5	72.82

4.1 Overall bibliometric profile

The most striking finding was the expansion of research output in the second half of the decade. Dimensions increased from 138 documents in 2015–2019 to 342 in 2020–2024, Scopus increased from 107 to 255, and Web of Science increased from 24 to 103. Thus, all three databases independently identified a marked post-2019 expansion, although their absolute coverage differed substantially.[6]

Table 2. Annual scientific production associated with PIMS-DU across Dimensions, Scopus and Web of Science, 2015–2024.

Year	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024
Dimensions	33	26	35	16	28	48	35	84	92	83
Scopus	29	26	19	17	16	38	35	53	72	57
Web of Science	6	7	3	4	4	8	8	22	28	37

4.2 Annual scientific production

Dimensions recorded 33, 26, 35, 16 and 28 publications from 2015 to 2019, followed by 48, 35, 84, 92 and 83 from 2020 to 2024. Scopus recorded 29, 26, 19, 17 and 16, followed by 38, 35, 53, 72 and 57. Web of Science recorded 6, 7, 3, 4 and 4, followed by 8, 8, 22, 28 and 37. The annual series therefore shows a common post-2020 expansion, although the magnitude and timing differ by database.

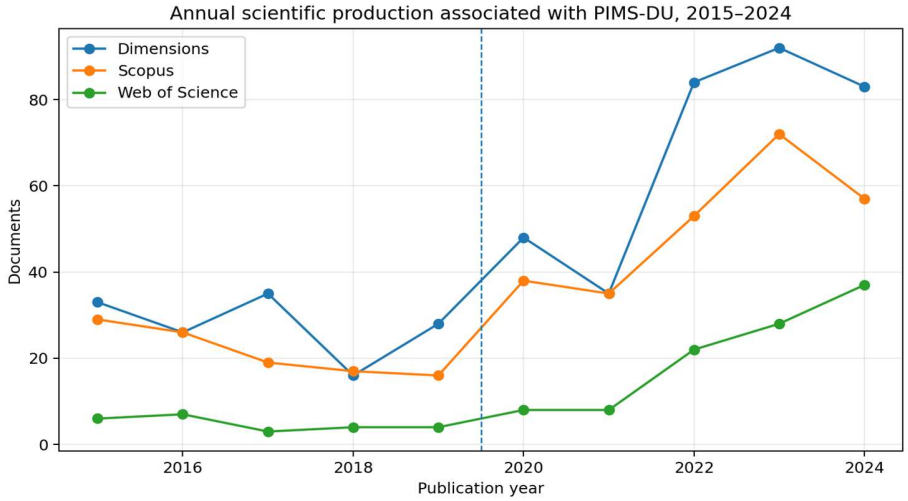


Figure 1. Annual scientific production associated with PIMS-DU in Dimensions, Scopus and Web of Science, 2015–2024. Source: supplied institutional Biblioshiny reports.

4.3 Citation dynamics

The three databases showed different citation profiles. Dimensions reported mean citations per document of 17.64 during 2015–2019 and 6.032 during 2020–2024; Scopus reported 7.57 and 22.17; and Web of Science reported 10.38 and 33.22, respectively. These values are descriptive database-specific measures and should not be treated as interchangeable estimates of institutional impact. The later-period decline in Dimensions mean citations occurs alongside the younger average document age, while the higher later-period means in Scopus and Web of Science are influenced by their respective coverage and citation-link structures as well as highly cited publications.

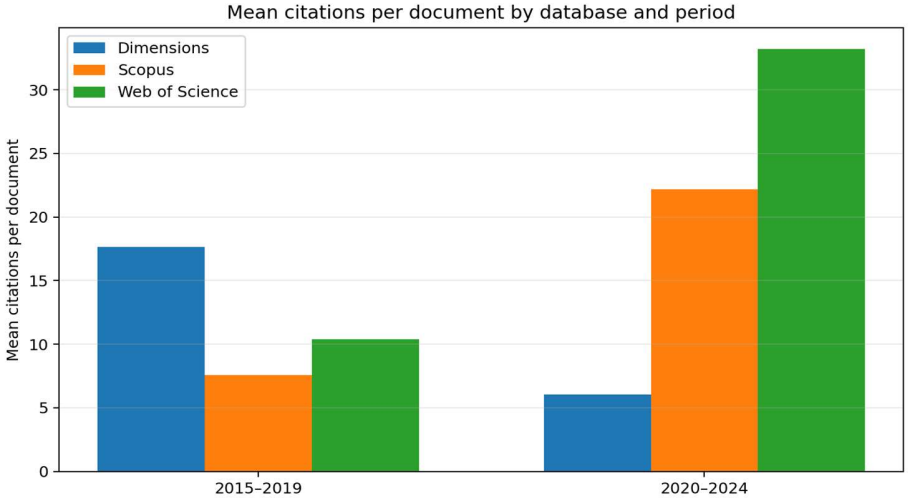


Figure 2. Mean citations per document by database and analytical period. Citation values are database-specific and should not be interpreted as directly interchangeable.

4.4 International collaboration

International co-authorship (publications involving authors affiliated with institutions in more than one country) increased in all three databases. Dimensions increased from 7.971% in 2015–2019 to 22.22% in 2020–2024; Scopus increased from 9.346% to 27.84%; and Web of Science increased from 37.50% to 72.82%. The magnitude of the Web of Science estimate is substantially higher and should not be averaged with the other databases; instead, the difference demonstrates database sensitivity in the observed international profile.

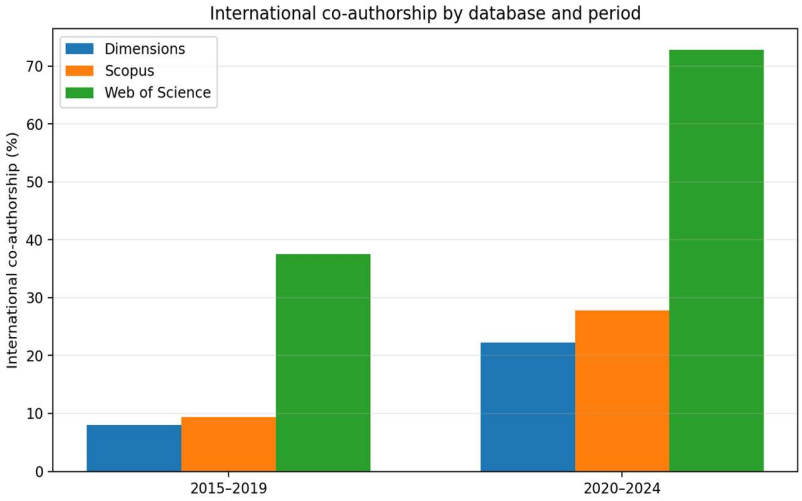


Figure 3. International co-authorship by database and analytical period, 2015–2019 versus 2020–2024.

4.5 Source and conceptual diversification

In 2015–2019, the source profile was relatively concentrated, while during 2020–2024 the publication landscape broadened substantially. Dimensions increased from 85 to 150 sources, Scopus from 55 to 122, and Web of Science from 20 to 60. The individual source lists differ, but all three databases therefore indicate expansion and broadening of the publication-source landscape.

This convergence is more informative than any single database count: the institution appears to have moved from a relatively concentrated publication profile toward a broader set of clinical, biomedical, public-health, dental, allied-health and international outlets. The exact source mix remains database-dependent.

4.6 Research participation and authorship structure

Author productivity also broadened during the later period. Dimensions identified Shidhaye R as the most productive author with 28 documents, followed by Saluja H (15), Dadhich A (11), Kunkulol R (10) and Waghmare CM (10). Web of Science identified Shidhaye R with 26 articles, followed by Lakkimsetti M (19), Shandilya A (17), Desai HD (16), Patel J (15) and Syed S (14). Scopus similarly identified Shidhaye R as a major later-period contributor, with an author-impact output reporting an h-index of 11, 34 publications and 835 total citations in the analysed corpus. Recurrence of later-period contributors across databases supports, but does not by itself prove broadening of research participation.

Author and affiliation indicators were retained as contextual evidence rather than treated as independent measures of research quality. Database-specific naming and affiliation normalization can alter apparent productivity, and highly collaborative papers can contribute disproportionately to individual author counts.

4.7 Institutional and geographic reach

The Scopus affiliation analysis identified multiple PIMS-associated variants in both periods. During 2020–2024, Rural Dental College (157), Pravara Institute of Medical Sciences (112), University of Washington (107), São Paulo State University (94) and Rural Medical College (48) were among the prominent affiliation-associated entities. The presence of international affiliations in the institutional record is consistent with the strong later-period internationalization observed in all three database views.

The presence of multiple PIMS-associated affiliation variants indicates that affiliation normalization is important for future institutional research-information systems and for reproducible bibliometric monitoring.

4.8 International research reach

India remained the dominant contributing country across the three database views, with substantial representation of international collaborators from the USA, Iran, Australia, Ethiopia, the UK, China, Nigeria and other countries. Scopus similarly showed strong representation from the USA, Iran, Ethiopia, Brazil, Australia, the UK, Nigeria and Saudi Arabia. These patterns indicate broadening international research reach, although the exact country profile remains database-dependent.

4.9 Highly visible publications

Highly visible publications provided additional evidence of PIMS-DU participation in internationally prominent research networks. The publications identified as highly cited differed across databases, and citation counts for the same publication varied between databases, reinforcing the database- and citation-window dependence of visibility measures. Such associations demonstrate participation in broader research networks but should not be interpreted as evidence of institutional leadership, contribution magnitude or downstream clinical, policy or community impact.

5. Discussion

5.1 From publication growth to structural transformation

The principal finding is not simply that PIMS-DU produced more publications during 2020–2024; rather, the three databases collectively indicate a substantial change in the observable architecture of institutional research output within a multidisciplinary rural academic-health environment. Dimensions increased from 138 to 342 documents, Scopus from 107 to 255 and Web of Science from 24 to 103. This expansion occurred alongside greater international co-authorship, broader source diversity, emergence of new productive contributors and participation in large international research collaborations. The convergence across databases strengthens the inference that the change is substantive, while the differing magnitudes demonstrate that the research system observed is partly shaped by the bibliographic lens through which it is measured.

This pattern is more appropriately interpreted as research-system development than publication growth alone. Contemporary bibliometric scholarship recommends combining performance indicators with science-mapping approaches and avoiding overinterpretation of any single metric.[1-3]

5.2 Internationalization as a marker of research-system development and structural transformation

The increase in international co-authorship is one of the clearest markers of structural change, although its magnitude is strongly database-dependent. Dimensions increased approximately 2.8-fold, Scopus approximately 3.0-fold, while Web of Science increased from 37.50% to 72.82%. The higher Web of Science estimate should not be interpreted as evidence that Web of Science is more correct; rather, it shows that the observable international component depends on database coverage and document composition. Such networks may provide access to expertise, data, methods and infrastructure that are difficult to reproduce within a single institution, but the presence of international co-authorship should not be equated automatically with research quality.

The findings are consistent with literature showing that collaboration rates and their associations with citation impact vary substantially across countries and fields.[9-12] For a rural, multidisciplinary academic health institution, international collaboration may therefore be particularly informative as a marker of network reach, but it should be assessed alongside locally relevant research, leadership roles and substantive research contributions.

5.3 Large collaborative publications and the co-author effect

The increase in mean Scopus co-authors per document from 3.87 to 35.8, and the corresponding Web of Science increase from 5.88 to 73.7, are particularly striking. These values should not be interpreted as a typical PIMS-DU paper having 36 or 74 authors. The Scopus record-level median changed only from 4 to 5 authors, while a small number of hyper-authored global consortium publications generated a long right tail. This distinction is essential for responsible evaluation and is consistent with evidence that team size and its relationship with citation impact vary markedly across disciplines and countries.[12]

Consortium participation nevertheless represents a meaningful form of research-network integration even when the institutional role is not that of sole lead investigator. Institutional evaluation should therefore distinguish between typical team size, hyper-authored participation, and leadership or contributory roles rather than collapsing them into a single mean-authorship indicator.

5.4 Database-dependent citation visibility and the importance of citation windows

The contrasting citation profiles of Dimensions, Scopus and Web of Science are methodologically informative. Dimensions reported a decrease in mean citations per document from 17.64 to 6.032, whereas Scopus increased from 7.57 to 22.17 and Web of Science from 10.38 to 33.22. These differences can arise from database coverage, document composition, citation-link structures and the shorter citation window available to the 2020–2024 cohort. Citation indicators themselves capture selected aspects of scholarly influence rather than the full multidimensional construct of research quality.[13]

Comparative research has documented systematic differences among Dimensions, Scopus and Web of Science in journal coverage and research-output profiles.[4-6] Consequently, raw mean citations should be reported separately by database and interpreted with publication age, document type, field and citation date in mind.

5.5 COVID-19 as an accelerator

The timing of the change is notable because the second analytical period begins in 2020. The later corpus contains substantial mental-health, public-health and health-system research related to the COVID-19 period.[14] However, the continued increase through 2022–2024 and the broadening into oncology, biotechnology, dentistry, pharmacology, physiotherapy and other fields suggest that COVID-19 should be viewed as a possible accelerator rather than the sole explanation for the institutional transformation. This remains an interpretive hypothesis because the present study did not formally model causal effects of the pandemic.

5.6 Broadening of research participation

The emergence of different productive contributors in the later period is another institutional signal. Research-system development may involve renewal of the investigator base, development of early- and mid-career researchers and formation of sustained research teams. The later prominence of other contributors across the database outputs suggests broader participation in research production, although bibliometric productivity alone cannot establish leadership, independence or mentorship.

5.7 Implications for responsible research assessment

The findings support a multidimensional institutional research dashboard rather than reliance on publication counts or raw citation totals. Indicators could include publication volume, field-normalized citation impact, top-cited publications, international collaboration, multidisciplinary collaboration, first/corresponding/senior authorship, competitive grants, patents, guidelines, policy contributions and documented community or health-system impact. The three-database comparison adds a further requirement: database-specific values should be preserved rather than collapsed into a single score. The large difference in international co-authorship between Web of Science (72.82%), Scopus (27.84%) and Dimensions (22.22%) during 2020–2024 demonstrates that database choice can materially change the apparent institutional profile. This approach is consistent with the Leiden Manifesto, DORA and the Agreement on Reforming Research Assessment.[2,7,8]

6. Institutional Implications

- Move from publication targets toward development of sustainable research programs and research ecosystems.
- Convert international publication relationships into longer-term program-level collaborations, joint grants, shared datasets and co-supervision.
- Develop interdisciplinary research clusters around rural/community health, mental health, maternal and child health, dentistry, oncology, biotechnology, pharmacology, rehabilitation and health systems.
- Strengthen early-career researcher mentoring, biostatistical support, epidemiology support, scientific writing, grant development and research data management.
- Implement affiliation normalization and a central institutional research-information system to improve future bibliometric analyses.
- Use field-normalized and percentile-based indicators alongside raw citations, with explicit recognition of locally relevant research and societal impact; retain database-specific values for auditability.

7. Strengths

- Ten-year longitudinal institutional analysis.
- Triangulation across Dimensions, Scopus and Web of Science, three major bibliographic sources with different coverage characteristics.
- Comparison of two analytically meaningful five-year periods.
- Assessment of productivity, citation, collaboration, authorship, affiliation, country, keywords and highly cited documents.
- Use of a reproducible Bibliometrix/Biblioshiny analytical framework with explicit separation of database-level descriptive cohorts and record-level Scopus–Dimensions linkage.

8. Limitations

- Dimensions, Scopus and Web of Science have different coverage, document-type composition and citation-link structures and should not be treated as identical datasets.
- Citation counts are affected by publication age, document type, field and consortium effects; mean values are especially sensitive to highly cited papers.
- Multiple variants of PIMS-associated affiliations are present and require normalization.
- The raw Web of Science export did not map cleanly to the 127-document descriptive WoS cohort.
- Bibliometric indicators measure scholarly activity and visibility and do not by themselves capture clinical, policy or community impact.
- The raw Web of Science export did not map cleanly to the 127-document descriptive WoS Biblioshiny cohort.

9. Conclusion

The decade 2015–2024 represents a substantial transformation in the research profile of PIMS-DU. Dimensions, Scopus and Web of Science all demonstrate marked growth in research output during 2020–2024, although the magnitude differs by database. More importantly, the increase occurred alongside greater international collaboration, broader source and conceptual diversification, emergence of new research contributors and participation in highly visible global research networks.

The rise in international co-authorship and the appearance of PIMS-associated researchers in highly visible international publications are consistent with a movement beyond predominantly institution-centred scholarship toward a more networked model of knowledge production. At the same time, the sharp increase in mean co-authors/document is driven by a hyper-authored tail rather than a comparable increase in the typical research-team size.

The contrasting profiles of Dimensions, Scopus and Web of Science demonstrate that institutional research evaluation is sensitive to database choice, publication age, document composition and collaborative structure. Future assessment should therefore triangulate bibliographic sources and use a multidimensional framework combining productivity, scholarly influence, collaboration, research leadership, field-normalized impact and, where available, translational, policy, community and health-system outcomes.

The strategic challenge for the next decade is therefore not merely to increase publication numbers, but to convert the emerging research network into sustained research programs capable of generating scientific excellence and measurable benefit for health systems and communities.

References

1. Donthu N, Kumar S, Mukherjee D, Pandey N, Lim WM. How to conduct a bibliometric analysis: an overview and guidelines. J Bus Res. 2021;133:285-296. doi:10.1016/j.jbusres.2021.04.070.
2. Hicks D, Wouters P, Waltman L, de Rijcke S, Rafols I. Bibliometrics: the Leiden Manifesto for research metrics. Nature. 2015;520(7548):429-431. doi:10.1038/520429a.
3. Aria M, Cuccurullo C. bibliometrix: an R-tool for comprehensive science mapping analysis. J Informetr. 2017;11(4):959-975. doi:10.1016/j.joi.2017.08.007.
4. Thelwall M. Dimensions: a competitor to Scopus and the Web of Science? J Informetr. 2018;12(2):430-435. doi:10.1016/j.joi.2018.03.006.
5. Guerrero-Bote VP, Chinchilla-Rodríguez Z, Mendoza A, de Moya-Anegón F. Comparative analysis of the bibliographic data sources Dimensions and Scopus: an approach at the country and institutional levels. Front Res Metr Anal. 2021;5:593494. doi:10.3389/frma.2020.593494.
6. Singh VK, Singh P, Karmakar M, Leta J, Mayr P. The journal coverage of Web of Science, Scopus and Dimensions: a comparative analysis. Scientometrics. 2021;126:5113-5142. doi:10.1007/s11192-021-03948-5.
7. American Society for Cell Biology. San Francisco Declaration on Research Assessment (DORA). San Francisco: ASCB; 2012.
8. Coalition for Advancing Research Assessment. Agreement on Reforming Research Assessment. Brussels: CoARA; 2022.
9. Abramo G, D'Angelo CA, Di Costa F. Are researchers that collaborate more at the international level top performers? An investigation on the Italian university system. J Informetr. 2011;5(1):204-213. doi:10.1016/j.joi.2010.11.002.
10. Fan L, Wang Y, Ding S, Qi B. Productivity trends and citation impact of different institutional collaboration patterns at the research units' level. Scientometrics. 2020;125:1179-1196. doi:10.1007/s11192-020-03609-z.

11. Wang J, Frietsch R, Neuhäusler P, Hooi R. International collaboration leading to high citations: global impact or home country effect? J Informetr. 2024;18(4):101565. doi:10.1016/j.joi.2024.101565.
12. Thelwall M, Maflahi N. Academic collaboration rates and citation associations vary substantially between countries and fields. J Assoc Inf Sci Technol. 2020;71(8):968-978. doi:10.1002/asi.24315.
13. Aksnes DW, Langfeldt L, Wouters P. Citations, citation indicators, and research quality: an overview of basic concepts and theories. SAGE Open. 2019;9(1):2158244019829575. doi:10.1177/2158244019829575.
14. Kola L, Kohrt BA, Hanlon C, Naslund JA, Sikander S, Balaji M, et al. COVID-19 mental health impact and responses in low-income and middle-income countries: reimagining global mental health. Lancet Psychiatry. 2021;8(6):535-550. doi:10.1016/S2215-0366(21)00025-0.