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# Mapping Allied-Health Education in Maharashtra: Program Distribution, Regional Gaps, Professional Alignment and Opportunities for Collaborative Development

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**Research Article**

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## Abstract

# Background

Allied and healthcare professionals are essential to multidisciplinary health systems. Maharashtra is undergoing regulatory transition under the National Commission for Allied and Healthcare Professions (NCAHP) framework, creating a need for a reproducible baseline of allied-health education and its regional distribution.

# Objective

To map allied-health and related paramedical/healthcare programmes in Maharashtra, identify regional educational gaps, assess analytical correspondence with the NCAHP Schedule, and examine potential State Public University–MUHS collaboration under the proposed MAHASHAKTI Network.

# Methods

A descriptive exploratory secondary-data mapping study used official government, regulatory, university and institutional sources. A statewide inventory of 188 current programme records was compiled. NCAHP crosswalking was undertaken for records with sufficient programme-level evidence, yielding a 104-record validated subset. Administrative divisions were used for geographic analysis, and State Public Universities were mapped for potential regional collaboration.

# Results

The inventory comprised 139 undergraduate (73.9%), 22 postgraduate (11.7%) and 27 diploma/certificate/other (14.4%) records. Pune and Konkan accounted for 135 records (71.8%), while Amravati had no verified record and Chhatrapati Sambhajinagar had one. Of 188 records, 104 (55.3%) could be analytically crosswalked; 84 (44.7%) remained unmapped because of insufficient information. Within the validated subset, 87 (83.7%) demonstrated analytical correspondence with NCAHP Schedule categories.

# Conclusion

Maharashtra has substantial but geographically concentrated allied-health educational capacity. The principal challenge is an educational distribution, information-standardisation and coordination gap, rather than a simple numerical shortage or surplus. The State Public University network offers potential regional platforms for collaboration with MUHS, which could be coordinated through the proposed MAHASHAKTI Network while remaining complementary to statutory regulation.

# 1. Introduction

Allied and healthcare professionals are integral to contemporary health systems, contributing to diagnostic, therapeutic, rehabilitative, preventive, technological and health-information services. Health-system performance depends not only on the number of health workers but also on their competencies, distribution, accessibility, retention and integration with population needs.[1–3] Health-workforce planning therefore requires attention to the interaction between education, employment, deployment and service demand rather than educational output alone.[1, 2]

In India, allied-health education has developed through multiple institutional and professional pathways. Universities, medical institutions, hospitals and other educational organizations have established Programs under diverse nomenclature, academic structures and training arrangements. This diversity has expanded educational opportunities but has also generated challenges related to professional identity, curriculum comparability, clinical training, faculty capacity, quality assurance and regulatory standardisation.

The National Commission for Allied and Healthcare Professions Act, 2021 (NCAHP Act) introduced a statutory framework for regulating and maintaining standards of education and services, assessing institutions, maintaining professional registers and supporting coordinated development of allied and healthcare professions.[4] The Schedule to the Act specifies ten broad recognised categories of allied and healthcare professions, within which multiple professional subcategories are identified. The Commission's current national enrolment architecture also makes clear that inclusion in the professional database is a data-collection process and should not be conflated with formal registration.[5] The transition therefore creates an important policy window for examining existing educational Programs against the new professional architecture.

The educational implications of this transition are substantial. Maharashtra notified the Maharashtra State Allied and Healthcare Council Rules, 2024 on 10 October 2024, providing the state-level framework for implementation of the national legislation.[6] The transition creates a need for systematic Program mapping, nomenclature clarification, curriculum and competency crosswalking, and institutional validation before educational Programs can be meaningfully interpreted in relation to NCAHP categories.

An important institution within Maharashtra's health-education landscape is the Maharashtra University of Health Sciences (MUHS), Nashik. Established by the Government of Maharashtra as an independent health-sciences university under the Maharashtra University of Health Sciences Act, 1998, MUHS was created to ensure systematic instruction, teaching, training and research in health sciences and to promote balanced growth and greater uniformity in health-sciences education in the state.[7] Its statutory objectives include creation, preservation and dissemination of knowledge, academic excellence, teaching and research, and engagement with societal and regional developmental needs.[7] MUHS therefore occupies a distinctive position within Maharashtra's health-sciences education ecosystem and may provide an important academic platform for statewide collaboration.

Maharashtra also possesses a geographically distributed network of State Public Universities. These universities span all six administrative divisions and encompass diverse strengths in health sciences, basic sciences, public health, agriculture and nutrition, engineering and technology, skills development, law, social sciences and regional research. Although not all State Public Universities are health-sciences institutions, their geographic distribution represents potential institutional capacity for regionally anchored allied-health education. Potential linkages with MUHS could include academic mentoring, curriculum and competency development, faculty training, clinical education, shared simulation and laboratory resources, interdisciplinary research and postgraduate or continuing professional education, while preserving the statutory academic autonomy of each university. The national higher-education framework recognises State Universities as a distinct university category established or incorporated by a State Act.[8]

This institutional opportunity provides the context for the proposed MAHASHAKTI Network—Maharashtra Allied Healthcare Academic Standards, Harmonisation, Knowledge, Training and Innovation Network. MAHASHAKTI is conceived as a complementary collaborative academic architecture connecting MUHS, State Public Universities, healthcare institutions, professional bodies, industry and research organisations. It is not intended to create a parallel regulatory authority or promote uniform proliferation of Programs. Rather, it seeks to connect existing institutional strengths with identified educational needs through academic standards, harmonisation, knowledge exchange, training and innovation.

Despite the scale and diversity of Maharashtra's higher-education system, consolidated evidence describing the current distribution of allied-health and related paramedical Programs across university types and administrative divisions remains limited. Program information is dispersed across university websites, admission pages, prospectuses, institutional documents and regulatory sources. There is also limited evidence linking Program location with the State Public University network that could potentially support regional development. A systematic secondary-data analysis is therefore required as a reproducible baseline for subsequent institutional validation, curriculum crosswalking and health-labour-market analysis.

The rationale for the present study was therefore to establish a reproducible statewide baseline of allied-health educational provision, identify geographic and institutional gaps that may have implications for equitable access to allied-health education, assess the analytical correspondence of available Programs with the professional categories specified under the National Commission for Allied and Healthcare Professions Act, 2021, and examine the potential of Maharashtra's geographically distributed State Public University network for collaborative academic development with the Maharashtra University of Health Sciences (MUHS). The study further considers how such institutional linkages could inform the proposed Maharashtra Allied Healthcare Academic Standards, Harmonisation, Knowledge, Training and Innovation Network (MAHASHAKTI Network).

**Objectives**

**The study aimed to**

(i) map the current landscape of allied-health and related healthcare educational Programs in Maharashtra across different university types and academic levels using secondary data; (ii) analyse their distribution across professional domains and the six administrative divisions of Maharashtra and identify areas of high concentration, low coverage or no verified Program evidence; (iii) assess, within the validated subset, their analytical correspondence with professional categories specified in the Schedule to the National Commission for Allied and Healthcare Professions Act, 2021; and (iv) map the State Public University network and examine its potential for academic collaboration with MUHS under the proposed MAHASHAKTI Network.

# 2. Methods

# 2.1 Study design

A descriptive exploratory secondary-data mapping study was undertaken, supplemented by an institutional network analysis and policy-oriented systems analysis. The unit of analysis for Program mapping was the institution–Program–academic-level record.

# 2.2 Source acquisition and documentary hierarchy

Program information was acquired primarily from official and publicly accessible sources. The source hierarchy prioritised statutory and regulatory documents, official government portals, official university websites and Program/admission pages, institutional prospectuses and official institutional documents. Search-engine results and third-party listings were used only to identify potentially relevant records and were not treated as the final evidentiary source where an official source could be located. The acquisition framework and principal websites are summarized in Table 1.

Table 1

Documentary sources and official websites used for identification, verification and regulatory classification of allied-health educational programs in Maharashtra

| Source level | Principal source/website | Purpose in the study | Use in analysis |
|---|---|---|---|
| National regulatory | Ministry of Health & Family Welfare – NCAHP Act and notifications; https://www.mohfw.gov.in/ | Statutory categories, regulatory framework, NCAHP transition | Primary regulatory reference |
| NCAHP/AHPR | National Commission for Allied and Healthcare Professions / AHPR; https://ahpr.abdm.gov.in/ | Recognised categories, professional enrolment and institutional data architecture | NCAHP category validation |
| Maharashtra state regulation | Medical Education and Drugs Department; https://medical.maharashtra.gov.in/ | Maharashtra State Allied & Healthcare Council and state-level regulatory information | State regulatory context |
| MUHS | Maharashtra University of Health Sciences; https://www.muhs.ac.in/ | University mandate, academic role and institutional information | MUHS background and potential collaboration |
| UGC | University Grants Commission; https://www.ugc.gov.in/ | University status/type and higher-education institutional verification | University classification |
| MMRDA | Mumbai Metropolitan Region Development Authority; https://mmrda.maharashtra.gov.in/ | MMR boundary and regional definition | Secondary metropolitan interpretation |
| University/institution websites | Official websites of individual universities, schools, colleges and Program providers | Program title, academic level, current status, location and documentary evidence | Primary Program-level evidence |
| Admission/prospectus documents | Official university/institution admission portals and prospectuses | Current Program availability, nomenclature | Program verification |

| Source level | Principal source/website | Purpose in the study | Use in analysis |
|---|---|---|---|
| | | and academic level | |

## 2.3 Scope and eligibility

The inventory encompassed Programs explicitly positioned by institutions within allied-health, healthcare, paramedical or related health-skill structures. Undergraduate, postgraduate, diploma, certificate and other university-level pathways were distinguished analytically. A Program was included when it had identifiable institutional ownership, evidence of current or continuing availability and sufficient information for classification. Clearly discontinued Programs and duplicate documentary records were excluded from the primary inventory.

## 2.4 Program identification, reconciliation and validation

The documentary search and reconciliation process produced a verified statewide inventory of 188 current Program records. Duplicate records were consolidated at the institution–Program–academic-level level. Original Program nomenclature was retained in the master database. A separate NCAHP-mapping validation step assessed whether sufficient Program-level evidence was available to establish a defensible analytical correspondence with the NCAHP Schedule. This produced a 104-record validated mapping subset. The remaining 84 records were retained in the statewide inventory but were not classified as non-NCAHP; their correspondence could not be established reliably from the available secondary information.

## 2.5 NCAHP analytical crosswalk

Each of the 104 validated records was crosswalked against the ten broad categories in the Schedule to the NCAHP Act, 2021.[4] Where the Schedule provides professional subcategories, the closest analytical subcategory was recorded. For example, cardiovascular, respiratory, neuroscience, perfusion and renal technology Programs were assessed within the Medical Technologists and Physician Associate category where the Program evidence supported such correspondence. Program titles such as broad 'Allied Health' or 'Health Sciences' were not automatically treated as recognised professional qualifications. Clinical psychology was kept outside NCAHP analytical mapping where the available evidence placed the professional pathway within the Rehabilitation Council of India boundary. Mapping tiers were defined as strong/direct correspondence, strong/provisional correspondence, or broad category correspondence requiring curriculum-level verification. These are analytical crosswalks and do not constitute formal NCAHP recognition, approval or registration eligibility.

## 2.6 Geographic classification

The physical institutional/Program location was harmonized to district and then assigned to one of Maharashtra's six administrative divisions: Konkan, Pune, Nashik, Nagpur, Amravati and Chhatrapati Sambhajinagar. Administrative divisions were selected as the principal regional unit because they

provide a policy-relevant state planning framework. District-level information was retained as a secondary geographic layer. The Mumbai Metropolitan Region (MMR) was treated only as a secondary metropolitan construct. MMRDA currently describes MMR as covering Mumbai City, Mumbai Suburban and specified parts of Thane and Raigad, with the wider notified framework also incorporating specified areas of Palghar and Raigad.[9] Because MMR is not equivalent to entire administrative districts, Thane, Raigad and Palghar were retained as district-level locations and described, where appropriate, as an MMR-linked educational corridor.

## 2.7 State Public University network mapping

State Public Universities were mapped according to their principal institutional location and administrative division using UGC and official institutional sources.[8] The purpose was not to classify every State Public University as an allied-health provider, but to identify geographically distributed academic capacity that could potentially contribute to regional allied-health development according to comparative institutional strengths. Potential roles were considered as direct health/academic partners, specialist knowledge/resource partners or enabling/knowledge partners. Potential MUHS linkages were structured across Program mapping, curriculum and competency harmonisation, faculty development, clinical training, shared simulation and laboratory resources, postgraduate and continuing education, research and innovation, and workforce intelligence. These are potential collaboration pathways and do not imply existing agreements, institutional readiness or regulatory authority.

## 2.8 Data analysis

Descriptive frequencies and percentages were calculated for academic level, university type, professional domain and administrative division. The 188-record inventory was used for statewide descriptive analyses. The 104-record validated subset was used for NCAHP crosswalking. Program concentration was interpreted as educational supply rather than workforce adequacy. Regional educational void was defined descriptively as absence or very low representation of verified Program records within an administrative division; it was not interpreted as proof of workforce shortage. University-level institutional profiles were generated by grouping the 188 records using the standardised institution field and final academic-level classification.

# 3. Results

## 3.1 Statewide Program inventory

The verified statewide secondary-data inventory comprised 188 current Program records. This inventory served as the primary dataset for descriptive analysis. The records represented different academic levels and university types, reflecting the institutional diversity of allied-health education in Maharashtra. (Ref. Table 2)

Table 2
Distribution of the 188 identified allied-health and related healthcare program records by academic level

| Characteristic | Number of Programs Offered (n) | % |
|---|---|---|
| **Program Level** | | |
| Undergraduate | 139 | 73.9 |
| Postgraduate | 22 | 11.7 |
| Diploma/certificate/other | 27 | 14.4 |
| **Type of University** | | |
| Deemed-to-be university | 71 | 37.8 |
| Private university | 67 | 35.6 |
| State Public University | 48 | 25.5 |
| State open university | 2 | 1.1 |
| **Total** | **188** | 100.0 |

The predominance of undergraduate Programs indicates that Maharashtra's allied-health educational landscape is primarily oriented toward entry-level professional preparation, while postgraduate provision remains comparatively limited. The university-type distribution also demonstrates a substantial role for deemed-to-be and private universities alongside the State Public University sector.

The 188-record inventory represented 22 university or university-level institutional entities. To make the institutional landscape explicit, Program records were aggregated by standardised university/institution name and academic level. The resulting university-level profile is presented in Table 3. The table is intended to show the breadth of institutional participation and the levels at which Programs were documented; Program counts remain counts of educational records and do not represent student intake, approved seats or workforce supply.

Table 3
Universities and university-level institutions offering allied-health and related healthcare education in Maharashtra, by academic level

| University / institution represented in inventory | University type | Principal location | UG | PG | Diploma/ Certificate | Total program records |
|---|---|---|---|---|---|---|
| DMIHER | Deemed-to-be | Wardha | 29 | 0 | 0 | 29 |
| Punyashlok Ahilyadevi Holkar Solapur University | State public | Solapur | 0 | 3 | 25 | 28 |
| MGM Institute of Health Sciences | Deemed-to-be | Navi Mumbai | 12 | 12 | 0 | 24 |
| DY Patil University, Navi Mumbai | Private | Navi Mumbai | 22 | 0 | 0 | 22 |
| MUHS | State public | Nashik | 19 | 0 | 0 | 19 |
| Symbiosis Institute of Health Sciences | Deemed-to-be | Pune | 10 | 0 | 0 | 10 |
| Vijaybhoomi University | Private | Karjat, Raigad | 10 | 0 | 0 | 10 |
| ALARD University | Private | Pune | 7 | 2 | 0 | 9 |
| MIT-ADT University | Private | Pune | 8 | 0 | 0 | 8 |
| Dr. D. Y. Patil Vidyapeeth, Pune | Deemed-to-be | Pune | 6 | 1 | 0 | 7 |
| G H Raisoni International Skill Tech University, Pune | Private | Pune | 3 | 0 | 0 | 3 |
| ITM Skills University | Private | Navi Mumbai | 2 | 1 | 0 | 3 |
| G H Raisoni Skill Tech University, Nagpur | Private | Nagpur | 2 | 0 | 0 | 2 |
| Pimpri Chinchwad University | Private | Pune | 2 | 0 | 0 | 2 |
| Sanjay Ghodawat University | Private | Kolhapur | 2 | 0 | 0 | 2 |
| Symbiosis Skills and Professional University | Private | Pune | 1 | 1 | 0 | 2 |

| University / institution represented in inventory | University type | Principal location | UG | PG | Diploma/ Certificate | Total program records |
|---|---|---|---|---|---|---|
| Universal SkillTech University | Private | Vasai-Virar | 2 | 0 | 0 | 2 |
| YCMOU | State open | Nashik | 0 | 0 | 2 | 2 |
| Bharati Vidyapeeth | Deemed-to-be | Pune | 1 | 0 | 0 | 1 |
| MGM University | Private | Chhatrapati Sambhajinagar | 0 | 1 | 0 | 1 |
| Savitribai Phule Pune University | State public | Pune | 0 | 1 | 0 | 1 |
| Somaiya Vidyavihar University | Private | Mumbai | 1 | 0 | 0 | 1 |
| **Total** | | | **139** | **22** | **27** | **188** |

# 3.2 Derivation of the NCAHP-mapping subset

Of the 188 Program records, 104 (55.3%) contained sufficient Program-level information to permit defensible analytical crosswalking against the NCAHP Schedule. The remaining 84 records (44.7%) remained part of the statewide inventory but could not be reliably mapped using the available secondary evidence. This distinction is important: unmapped records were not classified as outside NCAHP and should not be interpreted as regulatory non-correspondence. (Ref. Table 4)

Table 4
Derivation of the validated subset for analytical NCAHP crosswalking

| Dataset stage | Program records | % of total |
|---|---|---|
| Verified statewide Program inventory | 188 | 100.0 |
| Sufficient information for analytical NCAHP crosswalking | 104 | 55.3 |
| Insufficient secondary information for reliable NCAHP crosswalking | 84 | 44.7 |

The inability to map 44.7% of the inventory also represents an information-standardization issue, because Program nomenclature, curriculum descriptions and professional orientation were not consistently available across institutions.

# 3.3 NCAHP analytical crosswalk of the validated subset

The 104 Program records constituting the validated NCAHP-mapping subset were crosswalked against the professional categories specified in the Schedule to the National Commission for Allied and Healthcare Professions Act, 2021. The crosswalk was based on the documented Program title,

institutional Program description and available secondary information, with the original Program nomenclature retained and the corresponding professional category assigned analytically. The exercise was intended to assess the degree of apparent alignment with the statutory professional framework and was not interpreted as evidence of formal regulatory recognition, approval or eligibility for professional registration. As shown in Table 5, the mapped Programs were distributed across several professional domains, with Medical Technologists and Physician Associate and Trauma, Burn Care and Surgical/Anaesthesia-related Technology representing the largest groups, followed by Medical Laboratory and Life Sciences and Medical Radiology, Imaging and Therapeutic Technology. Other represented domains included Ophthalmic Sciences, Nutrition Science, Health Information Management and Health Informatics, and Community Care/Behavioural Health-related categories, while no Program record in the validated subset was classified under Physiotherapy or Occupational Therapy. The distribution is illustrated in Fig. 2, which demonstrates the concentration of the mapped Program portfolio within a relatively limited number of professional domains. The crosswalk also identified varying levels of correspondence, reflecting differences in Program nomenclature and the availability of detailed curriculum or competency information across institutions. These findings indicate that the transition towards a standardized professional framework may require systematic curriculum-level and competency-level verification, particularly for Programs with broad, institution-specific or non-standard nomenclature.

Table 5
Distribution of the 104-record validated subset according to professional categories specified in the National Commission for Allied and Healthcare Professions Act, 2021

| NCAHP analytical category | n | % |
|---|---|---|
| Medical Technologists & Physician Associate | 27 | 26.0 |
| Trauma, Burn Care & Surgical/Anaesthesia-related Technology | 22 | 21.2 |
| Medical Laboratory & Life Sciences | 15 | 14.4 |
| Medical Radiology, Imaging & Therapeutic Technology | 10 | 9.6 |
| Ophthalmic Sciences | 5 | 4.8 |
| Nutrition Science | 3 | 2.9 |
| Health Information Management & Health Informatics | 3 | 2.9 |
| Community Care, Behavioural Health & Other Professionals | 2 | 1.9 |
| Physiotherapy | 0 | 0.0 |
| Occupational Therapy | 0 | 0.0 |
| No direct NCAHP Schedule correspondence identified | 15 | 14.4 |
| Outside NCAHP analytical mapping (RCI boundary) | 2 | 1.9 |
| Total | 104 | 100.0 |

Within the validated subset, 87 records (83.7%) demonstrated analytical correspondence with one of the ten NCAHP Schedule categories. Medical Technologists and Physician Associate was the largest represented category, followed by Trauma, Burn Care and Surgical/Anaesthesia-related Technology, Medical Laboratory and Life Sciences, and Medical Radiology, Imaging and Therapeutic Technology. No validated record was mapped to Physiotherapy or Occupational Therapy. Fifteen records had no direct Schedule correspondence based on available Program information, while two clinical-psychology records were retained outside NCAHP analytical mapping because of the RCI boundary. These classifications are analytical and do not constitute formal recognition.

# 3.4 Strength of NCAHP correspondence

The strength of analytical correspondence was assessed to distinguish programs that demonstrated relatively clear alignment with an NCAHP professional category from those for which the available secondary information permitted only provisional or broad correspondence. Among the 104 program records constituting the validated NCAHP-mapping subset, 68 (65.4%) demonstrated strong/direct correspondence, while 17 (16.3%) demonstrated strong but provisional correspondence. A further 2 records (1.9%) showed broad correspondence for which curriculum-level verification was considered

necessary. In contrast, 15 records (14.4%) did not demonstrate a direct correspondence with a professional category specified in the NCAHP Schedule, while 2 records (1.9%) were considered outside the NCAHP analytical mapping because of the identified Rehabilitation Council of India boundary. Overall, 87 of 104 records (83.7%) demonstrated some degree of analytical correspondence with the NCAHP professional framework, although this finding should not be interpreted as evidence of formal recognition or regulatory approval. (Ref.Table 6) The variation in correspondence strength reflects differences in program nomenclature, specificity of publicly available program descriptions and the extent to which program-level information permitted a defensible professional-category assignment. These findings highlight the need for subsequent curriculum and competency-level crosswalking, particularly for programs demonstrating provisional or broad correspondence.

Table 6
Strength of analytical correspondence between the validated program subset and professional categories specified in the NCAHP Schedule

| **Mapping status** | **n** | **%** |
|---|---|---|
| Strong/direct correspondence | 68 | 65.4 |
| Strong/provisional correspondence | 17 | 16.3 |
| Broad NCAHP category; curriculum verification required | 2 | 1.9 |
| No direct NCAHP Schedule correspondence | 15 | 14.4 |
| Outside NCAHP analytical mapping (RCI* boundary) | 2 | 1.9 |
| Total | 104 | 100.0 |
| (*Rehabilitation Council of India) | | |
| **(Note**: Strong/direct correspondence indicates relatively clear alignment based on available program-level evidence; strong/provisional correspondence indicates likely alignment requiring further verification; broad correspondence indicates alignment at a broad professional-domain level requiring curriculum-level review. “No direct NCAHP Schedule correspondence” does not imply regulatory exclusion from the NCAHP framework. RCI, Rehabilitation Council of India. Formal recognition, approval or registration eligibility was not inferred from this analytical crosswalk.) | | |

Thus, 68 records demonstrated strong/direct analytical correspondence, while 19 additional records required either provisional or curriculum-level qualification. The distinction between analytical correspondence and formal recognition is central to interpretation.

# 3.5 NCAHP domain distribution by university type

The distribution of the 104-record validated NCAHP-mapping subset was further examined according to university type to assess whether the observed professional-domain portfolio varied across institutional sectors. The analysis demonstrated that allied-health education was not distributed uniformly across university types, with deemed-to-be universities, private universities and State public universities contributing differently to the mapped professional domains. Deemed-to-be universities accounted for a

substantial proportion (68.3%) of the mapped program portfolio, particularly across technology-intensive allied-health domains, while private universities contributed predominantly to undergraduate programs across selected technical and laboratory-oriented areas. State public universities, although representing a smaller proportion of the mapped records, provided an important institutional component of the overall landscape, particularly through programs offered within the MUHS-affiliated ecosystem. These differences suggest that institutional type is an important dimension of Maharashtra's allied-health educational landscape and that the capacity, program orientation and geographic reach of different university sectors should be considered when planning statewide academic development. The distribution is presented in Table 7. However, these program-record counts should not be interpreted as differences in student intake, institutional capacity or workforce output, as such data were not available consistently across institutions.

Table 7
Distribution of the 104-record validated NCAHP-mapping subset across professional domains and university types

| NCAHP analytical category | Deemed-to-be | Private | State public | State open | Total |
|---|---|---|---|---|---|
| Medical Laboratory & Life Sciences | 10 | 1 | 4 | 0 | 15 |
| Trauma, Burn Care & Surgical/Anaesthesia-related Technology | 16 | 2 | 4 | 0 | 22 |
| Physiotherapy | 0 | 0 | 0 | 0 | 0 |
| Nutrition Science | 2 | 0 | 0 | 1 | 3 |
| Ophthalmic Sciences | 2 | 1 | 2 | 0 | 5 |
| Occupational Therapy | 0 | 0 | 0 | 0 | 0 |
| Community Care, Behavioural Health & Other Professionals | 0 | 1 | 0 | 1 | 2 |
| Medical Radiology, Imaging & Therapeutic Technology | 8 | 1 | 1 | 0 | 10 |
| Medical Technologists & Physician Associate | 21 | 4 | 2 | 0 | 27 |
| Health Information Management & Health Informatics | 3 | 0 | 0 | 0 | 3 |
| No direct NCAHP Schedule correspondence | 8 | 1 | 6 | 0 | 15 |
| Outside NCAHP analytical mapping (RCI boundary) | 1 | 0 | 1 | 0 | 2 |
| Total | 71 | 11 | 20 | 2 | 104 |

# 3.6 Administrative-divisional distribution

The geographic distribution of the 188 allied-health and related healthcare program records was examined across Maharashtra's six administrative divisions to identify areas of concentration and potential regional educational gaps. The distribution was markedly uneven, with program records concentrated predominantly in the Pune and Konkan divisions, while substantially fewer records were identified in other parts of the state. Amravati division had no verified program record in the study inventory, whereas Chhatrapati Sambhajinagar division had only one identified record. The remaining divisions demonstrated intermediate levels of program representation. This pattern indicates that the availability of allied-health educational programs is not geographically uniform across Maharashtra and that substantial differences exist between administrative regions. The observed concentration also corresponds partly with the location of major deemed-to-be and private universities and established healthcare and educational centres in metropolitan and urban regions. However, program counts alone cannot establish differences in student access, enrolment, faculty availability or workforce supply. The divisional distribution is therefore interpreted as an educational availability indicator, rather than a direct measure of allied-health workforce adequacy. The distribution of program records across the six administrative divisions is presented in Table 8, with the geographic pattern illustrated in Fig. 3.

Table 8
Distribution of the allied-health program records across Maharashtra's six administrative divisions

| Administrative division | Records | % | Interpretation |
|---|---|---|---|
| Pune | 73 | 38.8 | Very high concentration |
| Konkan | 62 | 33.0 | High concentration |
| Nagpur | 31 | 16.5 | High concentration |
| Nashik | 21 | 11.2 | Moderate concentration |
| Chhatrapati Sambhajinagar | 1 | 0.5 | Very low coverage |
| Amravati | 0 | 0.0 | No verified Program record |
| Total | 188 | 100.0 | |

# 3.7 District distribution and MMR-linked educational corridor

The district-level analysis provided a more granular view of the geographic concentration observed at the administrative-divisional level. Program records were concentrated in a relatively limited number of urban and metropolitan districts, particularly Pune, Mumbai and its surrounding metropolitan region, and other major urban centres, whereas several districts had few or no verified program records. This pattern suggests that allied-health educational provision is closely associated with established urban higher-education and healthcare infrastructure. The Mumbai Metropolitan Region (MMR) is particularly relevant as a major educational and healthcare corridor, encompassing Mumbai and adjoining metropolitan

areas; however, the present analysis retains district as the primary unit of geographic analysis rather than treating MMR as an administrative division. MMR is therefore used only as an interpretive geographic construct to describe the concentration of programs across the interconnected metropolitan districts. The observed metropolitan concentration should not be interpreted as evidence of inadequate provision in individual districts because program-level data do not capture student origin, commuting patterns, institutional catchment areas or enrolment. Nevertheless, the marked concentration of programs in major urban centres, together with limited program visibility in several non-metropolitan districts, provides an important basis for considering regionally distributed academic hubs and inter-university collaboration under the proposed MAHASHAKTI framework. The district-level distribution is presented in Table 9.

Table 9
District-level distribution of allied-health and related healthcare program records in Maharashtra

| District/location | Records | % |
|---|---|---|
| Thane | 46 | 24.5 |
| Pune | 43 | 22.9 |
| Wardha | 29 | 15.4 |
| Solapur | 28 | 14.9 |
| Nashik | 21 | 11.2 |
| Raigad | 13 | 6.9 |
| Kolhapur | 2 | 1.1 |
| Palghar | 2 | 1.1 |
| Nagpur | 2 | 1.1 |
| Chhatrapati Sambhajinagar | 1 | 0.5 |
| Mumbai Suburban | 1 | 0.5 |
| Total | 188 | 100.0 |

Thane, Raigad, Palghar and Mumbai Suburban together account for a substantial metropolitan-linked concentration. MMR was not substituted for these districts because the notified MMR boundary includes specified parts of districts rather than entire districts.[9] The district-level approach therefore preserves analytical precision while allowing a secondary interpretation of an MMR-linked educational corridor.

## 3.8 Urban–rural access and student-flow gap

The concentration of educational institutions in metropolitan and established university centres raises questions regarding accessibility for students from rural and underserved regions. However, the

inventory does not contain consolidated information on student domicile, urban–rural origin, enrolment, completion or graduate employment location. The study therefore cannot quantify an urban–rural student-access gap or infer workforce distribution from Program location. The regional voids should be treated as educational-capacity signals requiring institutional validation rather than as direct measures of workforce shortage.

## 3.9 State Public University network and potential MUHS linkages

The mapping of Maharashtra's State Public Universities demonstrated the presence of a geographically distributed higher-education network spanning the state's major administrative divisions. The identified universities represented diverse academic domains, including health sciences, public health, basic and applied sciences, agriculture and nutrition, technology, skills development and interdisciplinary research. The distribution was particularly relevant when considered alongside the uneven distribution of allied-health program records identified in the present study. Several administrative divisions with relatively limited allied-health program representation nevertheless contained State Public Universities that could potentially provide an institutional platform for regional academic development. Table 10 presents the State Public Universities mapped across the six administrative divisions together with their broad academic strengths and the potential areas in which their existing institutional capacities could complement MUHS. These potential areas included curriculum and competency development, faculty development, assessment and quality assurance, clinical and simulation-based education, shared laboratory and academic resources, postgraduate and continuing education, interdisciplinary research, and workforce-oriented educational planning. The mapping therefore identified a potentially distributed institutional architecture through which MUHS and State Public Universities could contribute complementary capacities to regional allied-health education. However, the present analysis identifies potential institutional linkages rather than existing collaborations or confirmed institutional capacity, and the availability of relevant faculty, infrastructure, clinical facilities, statutory permissions and institutional willingness requires validation in subsequent phases of the study.

Table 10
State Public Universities across Maharashtra's administrative divisions and potential contributions to regional allied-health academic development

| Administrative division | State Public Universities identified | Potential contribution to MAHASHAKTI |
|---|---|---|
| Konkan | University of Mumbai; SNDT Women's University; Dr Homi Bhabha State University; Maharashtra State Skills University; Dr Balasaheb Sawant Konkan Krishi Vidyapeeth; Dr Babasaheb Ambedkar Technological University | Regional academic network; skills; technology; public health; women's health; rural/coastal health |
| Pune | Savitribai Phule Pune University; Shivaji University; Punyashlok Ahilyadevi Holkar Solapur University; COEP Technological University; Karmaveer Bhaurao Patil University | High-capacity academic and research network; public health; technology; allied-health hubs; regional outreach |
| Nashik | Maharashtra University of Health Sciences; Kavayitri Bahinabai Chaudhari North Maharashtra University; Mahatma Phule Krishi Vidyapeeth | MUHS anchor; north Maharashtra network; nutrition; rural health; agriculture-health interface |
| Nagpur | Rashtrasant Tukadoji Maharaj Nagpur University; Gondwana University; Maharashtra Animal & Fishery Sciences University; Laxminarayan Innovation Technological University; Maharashtra National Law University, Nagpur | Central/eastern hub; tribal and rural health; One Health; technology; health law |
| Amravati | Sant Gadge Baba Amravati University; Dr Panjabrao Deshmukh Krishi Vidyapeeth | Priority regional development platform; rural/tribal health; public health; nutrition; agriculture-health interface |
| Chhatrapati Sambhajinagar | Dr Babasaheb Ambedkar Marathwada University; Swami Ramanand Teerth Marathwada University; Vasantrao Naik Marathwada Krishi Vidyapeeth; Maharashtra National Law University, Chhatrapati Sambhajinagar | Priority regional development platform; allied-health education; rural health; nutrition; health law and policy |

# 4. Discussion

# 4.1 Principal findings

The study demonstrates a substantial but uneven allied-health educational landscape in Maharashtra. The 188-record statewide inventory is diverse in academic level and university type but highly concentrated geographically, with 71.8% of records located in Pune and Konkan. The NCAHP crosswalk adds a second dimension: among the 104 records with sufficient information for mapping, 87 (83.7%) could be analytically linked to one of the ten Schedule categories, but only 68 (65.4%) showed strong/direct correspondence. The remaining records require provisional interpretation, curriculum verification or remain outside direct Schedule correspondence. The university-level analysis further

demonstrates that allied-health education is distributed across 22 university or university-level institutional entities, but the breadth and academic level of provision vary substantially between institutions.

## 4.2 Educational concentration rather than simple Program shortage

The findings should not be interpreted as evidence that Maharashtra simply lacks allied-health Programs. Rather, educational capacity is concentrated in selected metropolitan and university hubs. Program counts do not measure actual intake, clinical capacity, graduation or employment. A region with few Programs may receive students from elsewhere, while a high Program count may coexist with low utilisation or duplication. The principal finding is therefore a distribution and coordination gap rather than a simple numerical shortage or surplus.

## 4.3 Regional educational void

The absence of verified Program records in Amravati and the single record in Chhatrapati Sambhajinagar are important signals for state-level educational planning. They identify regions in which Program availability should be validated directly with institutions and where the existing State Public University network may provide potential platforms for regional academic development. These findings should not be interpreted as proof of workforce shortage because student migration, registration, employment and healthcare-service demand were not measured.

## 4.4 Metropolitan concentration and the MMR-linked corridor

The district-level concentration in Thane and the presence of records in Raigad, Palghar and Mumbai Suburban are consistent with a metropolitan-linked educational corridor. MMRDA's current definition confirms that MMR includes Mumbai and specified portions of Thane and Raigad and has an extended notified area involving specified areas of Palghar and Raigad.[9] Retaining district as the primary variable avoids geographic misclassification while recognising the role of metropolitan infrastructure in educational clustering.

## 4.5 Institutional diversification and information standardization

Deemed-to-be and private universities account for 138 of 188 records (73.4%), while State Public Universities account for 48 (25.5%). Institutional diversification may support specialised infrastructure and innovation but can also generate heterogeneous nomenclature, curriculum descriptions and documentation. The fact that 84 of 188 records could not be reliably crosswalked to an NCAHP category using available public information is itself an information-standardisation signal. This does not indicate that these Programs are non-NCAHP; rather, it demonstrates the need for standardized Program descriptors, qualification information and competency documentation.

## 4.6 NCAHP alignment

The revised crosswalk provides a more defensible picture than Program-title matching alone. The largest mapped categories were Medical Technologists and Physician Associate, Trauma, Burn Care and Surgical/Anaesthesia-related Technology, Medical Laboratory and Life Sciences, and Medical Radiology, Imaging and Therapeutic Technology. The absence of mapped Physiotherapy and Occupational Therapy records in this subset should be interpreted as a finding of the current validated inventory, not as evidence that these professions are absent from Maharashtra. Formal recognition, course approval and professional registration remain regulatory matters under the NCAHP framework.[4–6]

## 4.7 State Public Universities as potential regional academic capacity

The geographic distribution of State Public Universities provides an important institutional dimension to the gap analysis. Existing universities in all six divisions have different comparative strengths that could potentially support allied-health development without requiring every university to become a comprehensive health-sciences institution. This is particularly relevant to Amravati and Chhatrapati Sambhajinagar, where Program evidence is limited. The State Public University network can therefore be considered a potential enabling layer for regional academic development.

## 4.8 Potential MUHS–State Public University collaboration

MUHS's statutory health-sciences mandate makes it a logical potential academic mentor for such a network.[7] Under MAHASHAKTI, potential collaboration could include Program mapping, curriculum and competency frameworks, faculty development, assessment expertise, clinical-network coordination, shared simulation and laboratory resources, postgraduate pathways, research and workforce intelligence. MUHS would not regulate other universities or replace statutory authorities; State Public Universities would retain their academic autonomy.

## 4.9 Regional hub-and-spoke model

The findings support a regional hub-and-spoke approach. Pune and Konkan represent high-capacity educational hubs; Nashik and Nagpur represent established regional networks; Amravati and Chhatrapati Sambhajinagar represent priority regions for validation and potential capacity development. The purpose should not be duplication of specialised infrastructure but strategic sharing of faculty, simulation, laboratories, clinical placements, research and digital learning resources.

## 4.10 From educational mapping to health-labor-market planning

The present study remains an educational-supply analysis. The next stage should integrate sanctioned intake, enrolment, graduation, registration, employment, vacancies, migration, retention and healthcare-

service demand. This would allow Program planning to progress from educational mapping toward health-labour-market analysis consistent with established workforce-planning approaches. [1, 2]

# 5. Conceptual Linkage to MAHASHAKTI

The findings provide an empirical rationale for the proposed MAHASHAKTI Network—Maharashtra Allied Healthcare Academic Standards, Harmonisation, Knowledge, Training and Innovation Network. The central proposition is to connect existing academic and healthcare capacity rather than promote indiscriminate Program proliferation. MUHS can potentially serve as a health-sciences academic mentor; State Public Universities can function as regional academic platforms; healthcare institutions can provide clinical-training environments; professional bodies can contribute to competency alignment; and industry and research organisations can support innovation and workforce-oriented research.

The five conceptual dimensions of MAHASHAKTI are academic standards, harmonisation, knowledge, training and innovation. Together they provide a framework for maintaining a dynamic Program inventory, aligning Programs and competencies with NCAHP categories, sharing faculty and specialised infrastructure, strengthening clinical and simulation training, developing postgraduate and continuing education, supporting research and linking educational planning with workforce evidence. The framework is complementary to statutory regulation; recognition, registration and regulatory decisions remain with competent authorities under the NCAHP framework.[4, 6]

# 6. Regional Collaboration Pathways under MAHASHAKTI

The proposed MAHASHAKTI framework translates the identified regional institutional capacity into a set of complementary collaboration pathways linking MUHS, State Public Universities, healthcare institutions, professional bodies, government and industry. As summarized in Table 11, the proposed pathways begin with program mapping and dynamic information management, followed by curriculum and competency harmonization, faculty development, clinical training, shared simulation and laboratory capacity, postgraduate and continuing education, research and innovation, and workforce intelligence. These pathways are intended to build on the existing strengths of participating institutions rather than create a parallel educational structure or override university autonomy. In particular, a continuously updated program inventory incorporating academic level, intake, faculty and clinical capacity could provide the evidence base for curriculum planning and regional resource allocation. Collaborative competency crosswalks, faculty development, shared clinical-placement and simulation networks could subsequently support quality and standardization, while postgraduate pathways, research collaborations and workforce intelligence could strengthen academic progression and alignment with regional healthcare needs. Table 11 therefore presents MAHASHAKTI as a coordinated academic architecture through which geographically distributed institutions can contribute complementary capacities to a more equitable, competency-based and workforce-responsive allied-health education ecosystem.

Table 11
Regional collaboration pathways and proposed functions under the MAHASHAKTI Network

| Collaboration vertical | Potential partners | MAHASHAKTI function |
|---|---|---|
| Program mapping | MUHS + regional universities | Dynamic inventory of Programs, academic levels, intake, faculty and clinical capacity |
| Curriculum and competency harmonisation | MUHS + regional academic experts | Program–profession–competency crosswalks; model frameworks without overriding university autonomy |
| Faculty development | MUHS + State Public Universities + professional bodies | Training in competency-based education, assessment, simulation, clinical supervision and research |
| Clinical training | Regional universities + healthcare institutions | Shared clinical-placement networks and minimum exposure frameworks |
| Shared simulation and laboratories | Regional university consortium + hospitals + industry | Regional simulation, laboratory, imaging and technology-enabled learning capacity |
| Postgraduate and continuing education | MUHS + State Public Universities | Advanced certificates, PG pathways, micro-credentials and CPD according to need |
| Research and innovation | Universities + research/industry partners | Regional research agendas, health technology and implementation research |
| Workforce intelligence | MUHS + universities + government | Integration of educational output with registration, employment, vacancies, migration and service demand |

# 7. Policy Implications

Maharashtra would benefit from a dynamic statewide allied-health education information system integrating Program identity, nomenclature, academic level, regulatory category, sanctioned intake, enrolment, faculty, infrastructure, clinical capacity, graduation, registration and employment.

A statewide Program–profession–competency crosswalk should move beyond Program titles and examine curriculum content, competencies, clinical exposure, assessment, qualification and scope of practice against relevant NCAHP professional subcategories.

Administrative divisions should be used as a practical planning unit for regional allied-health development. The marked concentration in Pune and Konkan and the low coverage in Amravati and Chhatrapati Sambhajinagar support targeted regional planning rather than uniform duplication.

The State Public University network should be assessed as potential regional academic infrastructure. Universities need not all become health-sciences universities; their contribution can be matched to

comparative strengths in public health, basic sciences, technology, agriculture, nutrition, law, skills and research.

MUHS could serve as an academic mentor and quality-oriented partner within MAHASHAKTI, complementing rather than replacing statutory regulation and preserving the academic autonomy of State Public Universities.

Program expansion should be linked to evidence of faculty, infrastructure, clinical training, student demand and workforce need. Program count alone should not be used as the principal measure of educational adequacy.

Student-flow information should become an essential component of future planning. District of origin, urban–rural background, enrolment, completion and employment location would help determine whether educational expansion reaches underserved populations.

MAHASHAKTI should initially be tested through a pilot involving at least one high-capacity region and one priority low-coverage region, with evaluation of academic quality, faculty capacity, clinical training access, resource sharing and student outcomes.

# 8. Strengths

The study addresses an important policy question during a major regulatory transition and uses multiple documentary sources rather than a single institutional database. It distinguishes the 188-record statewide inventory from the 104-record validated NCAHP-mapping subset, preserves original Program nomenclature, separates analytical correspondence from formal regulatory recognition, and applies NCAHP Schedule categories and professional subcategories systematically. The use of administrative divisions translates Program-level evidence into a policy-relevant regional framework, while the parallel mapping of State Public Universities provides a potential institutional pathway for addressing identified gaps. The source-acquisition framework also improves reproducibility by specifying the documentary hierarchy and principal official websites used for Program verification.

# 9. Limitations

Several limitations should be considered. The study relied primarily on publicly accessible secondary information, and institutions differ in the completeness, accessibility and currency of information published online; Programs with poor online visibility may therefore have been missed. The 188-record inventory should not be regarded as a definitive census of all allied-health Programs in Maharashtra. Program counts do not capture sanctioned intake, actual enrolment, faculty strength, infrastructure, clinical capacity, graduation, professional registration, employment, migration or retention. Diploma and certificate Programs were included to capture broader educational supply but should not be interpreted as academically equivalent to undergraduate or postgraduate professional Programs. NCAHP crosswalking was possible for 104 records; the 84 unmapped records should not be interpreted as non-

NCAHP because insufficient secondary information prevented reliable classification. Administrative-divisional concentration measures educational location, not student origin or workforce distribution. MMR was not used as the primary geographic unit because its boundary covers specified portions of districts. The State Public University analysis identifies potential institutional roles and does not establish current readiness, funding, statutory approval or willingness to participate. Finally, the study cannot determine workforce shortage or surplus without integrating educational output with registration, employment and healthcare-service demand.

# 10. Future Research

The study should be viewed as Phase I of a broader research and policy-development Program. Phase II should validate all 188 Program records directly with universities and institutions and collect sanctioned intake, actual enrolment, faculty qualifications, infrastructure, clinical training capacity and current Program status. Phase III should undertake complete curriculum and competency crosswalking against relevant NCAHP professional subcategories, with special attention to the 84 records that could not be mapped from secondary evidence. Phase IV should integrate professional registration, graduation and employment data. Phase V should conduct district- and division-level health-labour-market analysis linking workforce supply with healthcare-service demand. Phase VI should involve structured stakeholder consultation with regulators, State Public Universities, healthcare institutions, professional bodies, industry, faculty and students. Phase VII should pilot MAHASHAKTI in selected regional hubs and evaluate its academic, clinical, workforce and governance outcomes.

# 11. Conclusion

This study demonstrates that Maharashtra has substantial but geographically concentrated allied-health educational capacity. The 188-record statewide inventory showed pronounced concentration in Pune and Konkan, alongside a marked regional educational void in Amravati and very limited verified provision in Chhatrapati Sambhajinagar. Within the validated 104-record subset, 87 (83.7%) had analytical correspondence with an NCAHP Schedule category, but only 68 (65.4%) showed strong/direct correspondence; 17 were provisional and 2 required curriculum-level verification. A further 84 statewide records could not be reliably crosswalked from available secondary information and should not be interpreted as non-NCAHP. The principal challenge is therefore not simply the number of Programs, but their regional distribution, information standardisation, professional alignment, academic progression and linkage with workforce needs. Maharashtra's geographically distributed State Public University network provides potential regional academic platforms, while MUHS offers a specialised health-sciences academic anchor. The proposed MAHASHAKTI Network can connect these capacities through academic standards, harmonisation, knowledge, training and innovation while remaining complementary to statutory regulation. The strategic objective should be a coordinated, competency-based, regionally responsive and workforce-aligned allied-health education ecosystem rather than indiscriminate Program proliferation.

**Declarations for journal submission**

**Ethics approval:**

• Not required because the study used publicly accessible secondary documentary data and did not involve human participants or identifiable personal data.

# Declarations

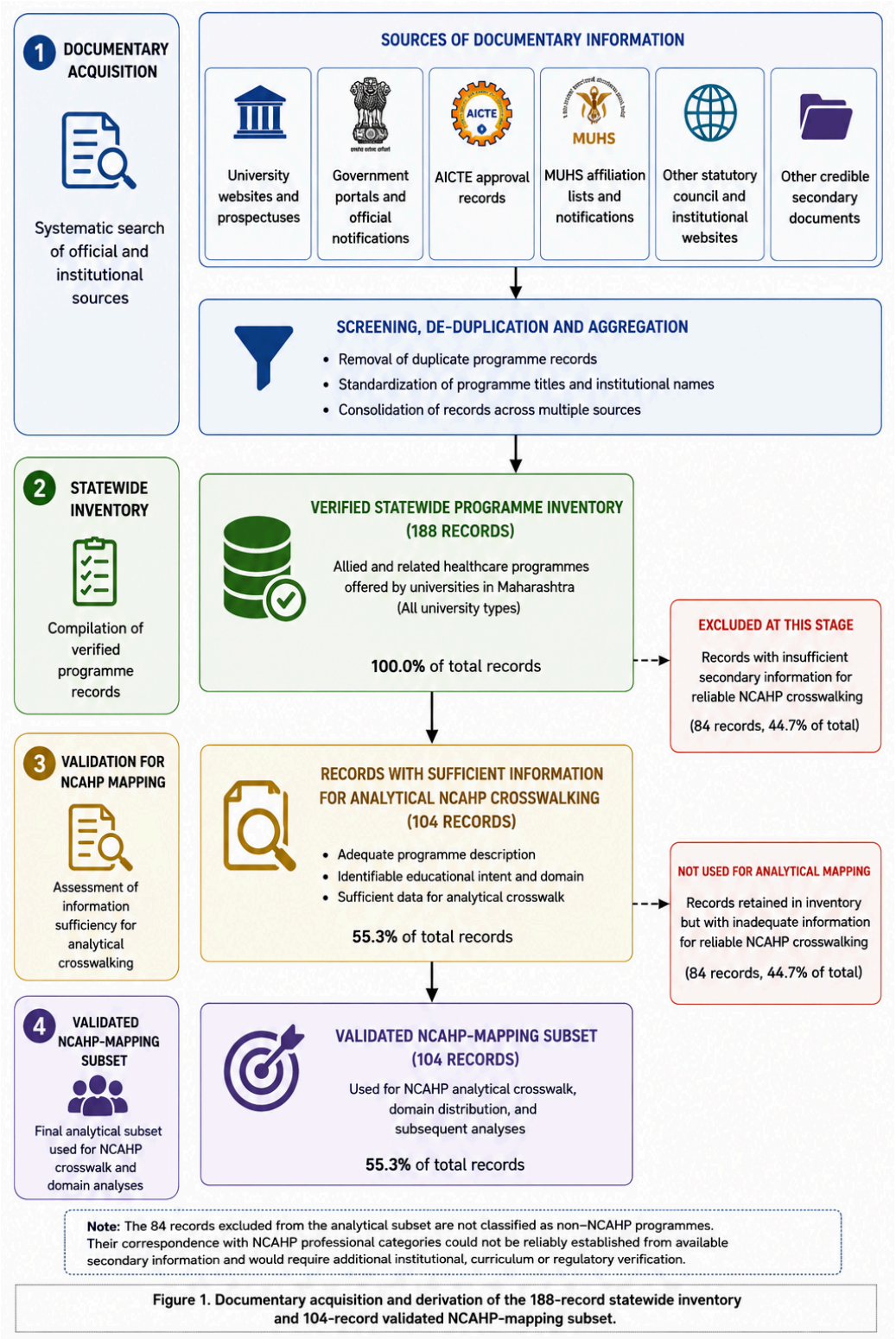
- **Ethics approval**: Not required because the study used publicly accessible secondary documentary data and did not involve human participants or identifiable personal data.
- **Consent to participate**: Not applicable.
- **Consent for publication:** Not applicable.
- **Data availability:** The Program-level inventory, NCAHP crosswalk and source-acquisition log are provided as supplementary materials, subject to journal requirements.
- **Competing interests:** The authors declare no competing interests.
- **Funding:** No external funding was received for this study.

# References


1. World Health Organization (2016) Global strategy on human resources for health: Workforce 2030. World Health Organization, Geneva
2. World Health Organization (2021) Health labour market analysis guidebook. World Health Organization, Geneva
3. World Health Organization (2021) WHO guideline on health workforce development, attraction, recruitment and retention in rural and remote areas. World Health Organization, Geneva
4. Government of India. The National Commission for Allied and Healthcare Professions Act (2021) Act No. 14 of 2021. New Delhi: Ministry of Law and Justice; 2021
5. National Commission for Allied and Healthcare Professions Allied and Healthcare Professionals Enrolment Database and information portal. Ministry of Health and Family Welfare, Government of India; accessed 12 August 2026.
6. Government of Maharashtra, Medical Education and Drugs Department Maharashtra State Allied and Healthcare Council Rules, 2024. Notification No. RASAA-0424/C.R.84/Adhiniyam; 10 October 2024.
7. Maharashtra University of Health Sciences Maharashtra University of Health Sciences Act, 1998; University mandate and objectives. Nashik: MUHS; accessed 12 August 2026.
8. University Grants Commission Universities and higher-education institutional information: State Universities and other university categories. New Delhi: UGC; accessed 12 August 2026.

9. Mumbai Metropolitan Region Development Authority Mumbai Metropolitan Region: regional definition, boundary and regional planning information. Government of Maharashtra; accessed 12 August 2026.
10. Frank JR, Mungroo R, Ahmad Y, Wang M, De Rossi S, Horsley T (2010) Toward a definition of competency-based education in medicine: a systematic review of published definitions. Med Teach 32(8):631–637
11. Reeves S, Goldman J, Burton A, Sawatzky-Girling B (2010) Synthesis of systematic review evidence of interprofessional education. J Allied Health 39(Suppl 1):198–203

# Figures




## Figure 1

*Documentary acquisition and derivation of the 188-record statewide inventory and 104-record validated NCAHP-mapping subset.*

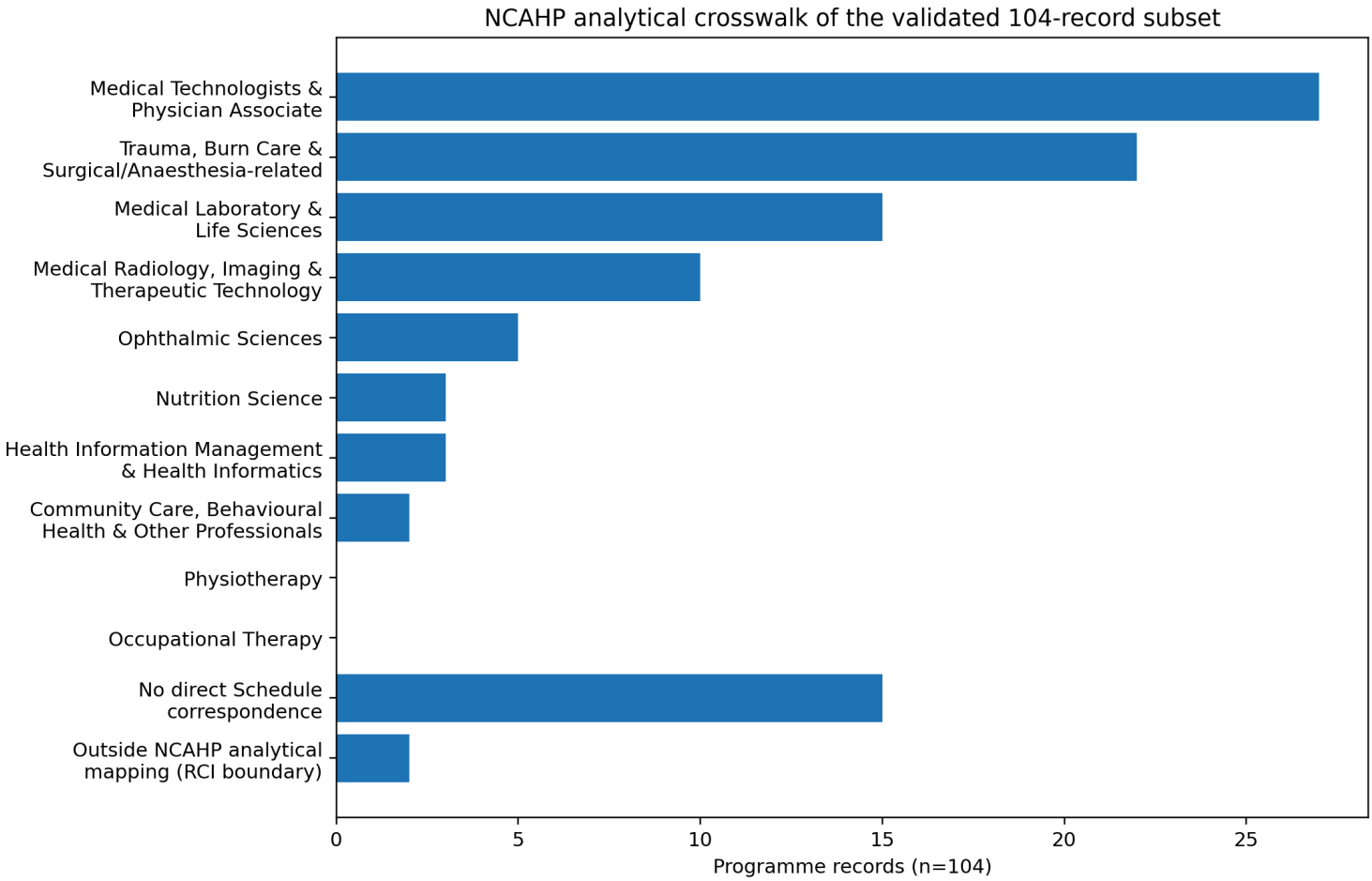



**Figure 2**

*Distribution of the validated 104-record subset across NCAHP Schedule categories. (Zero values for Physiotherapy and Occupational Therapy are retained to demonstrate the absence of mapped records in this subset.)*

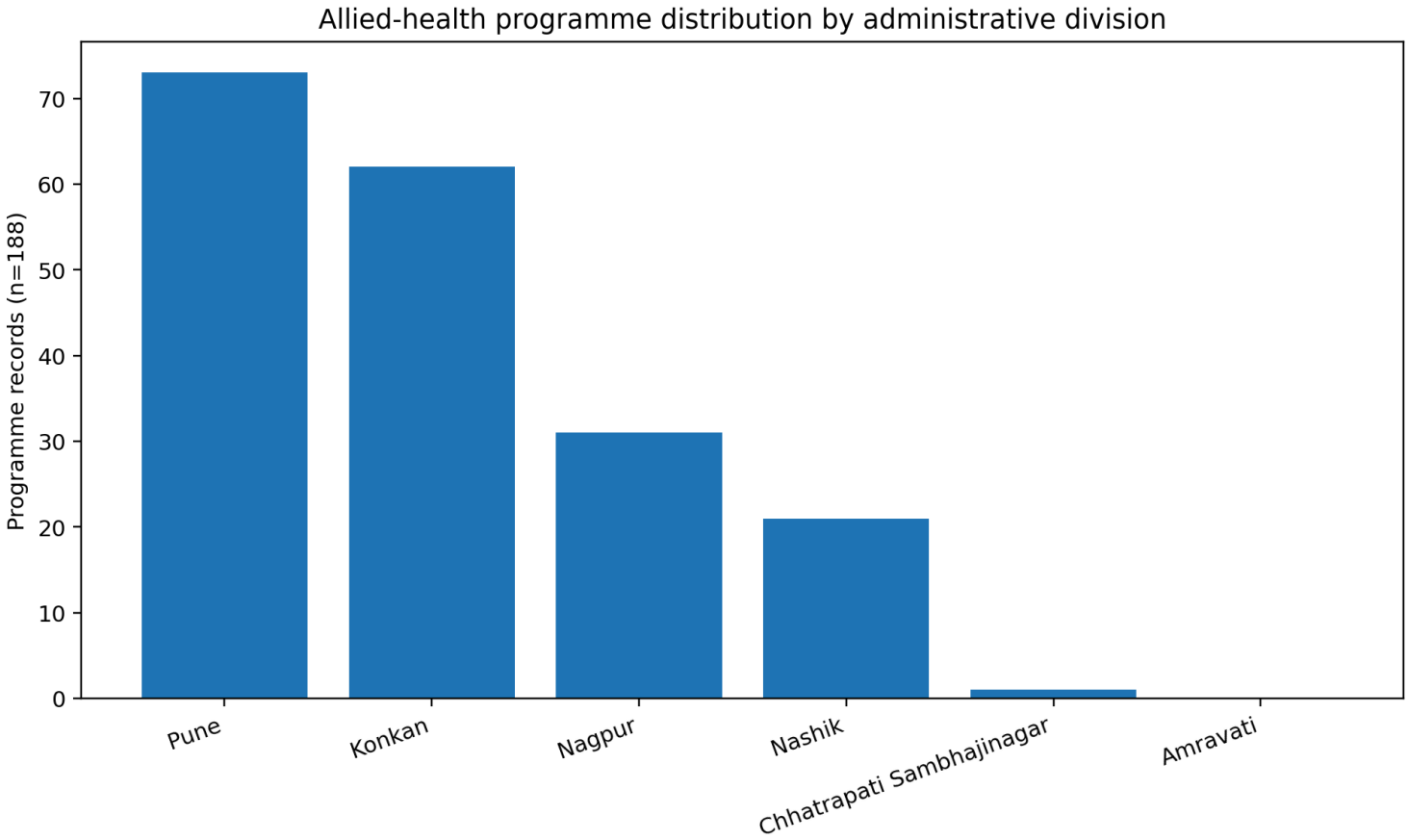



**Figure 3**

*Distribution of verified allied-health and related healthcare Program records across Maharashtra's six administrative divisions.*

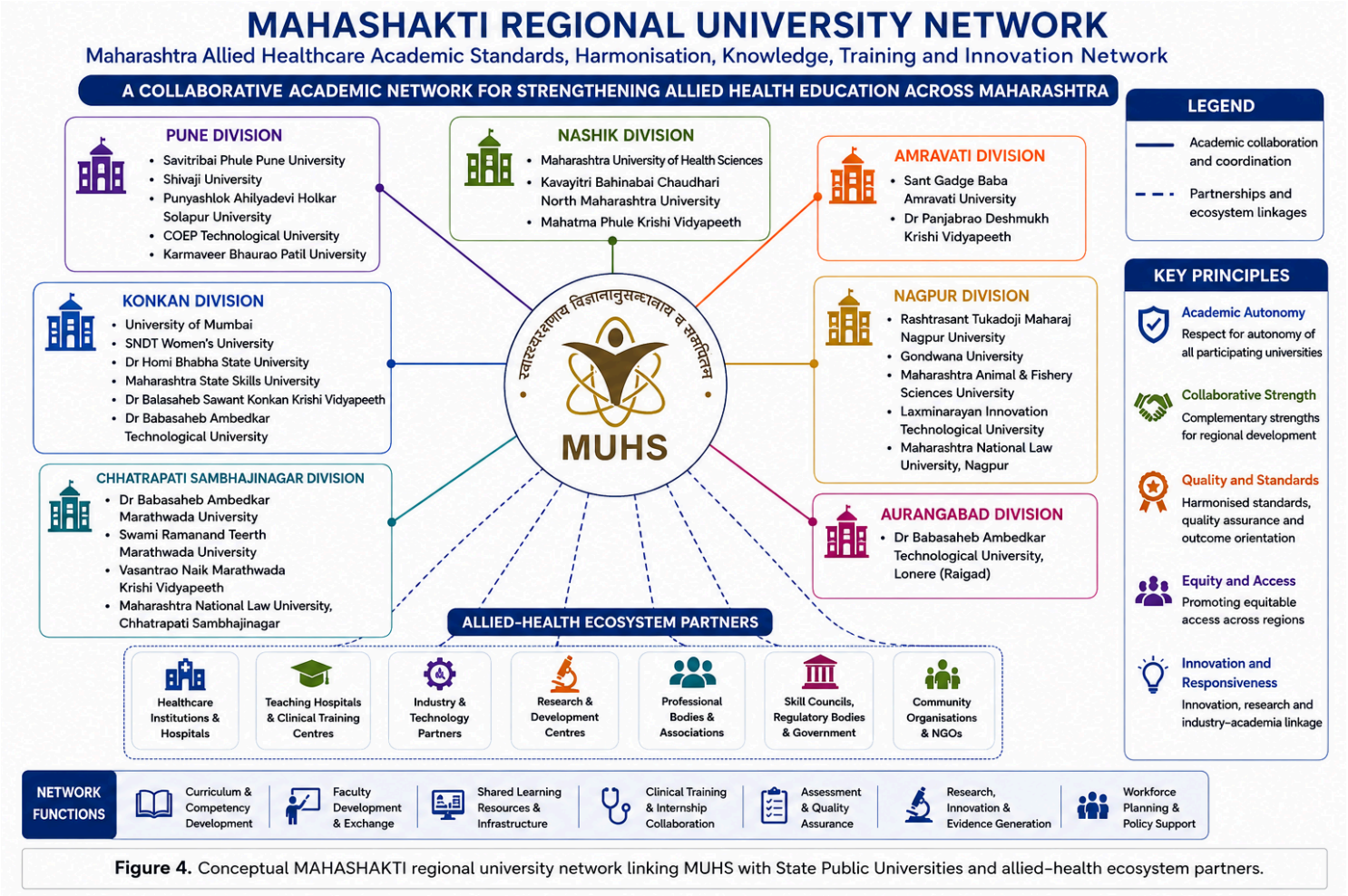



**Figure 4.** Conceptual MAHASHAKTI regional university network linking MUHS with State Public Universities and allied-health ecosystem partners.

## Figure 4

*Conceptual MAHASHAKTI regional university network linking MUHS with State Public Universities and allied-health ecosystem partners.*