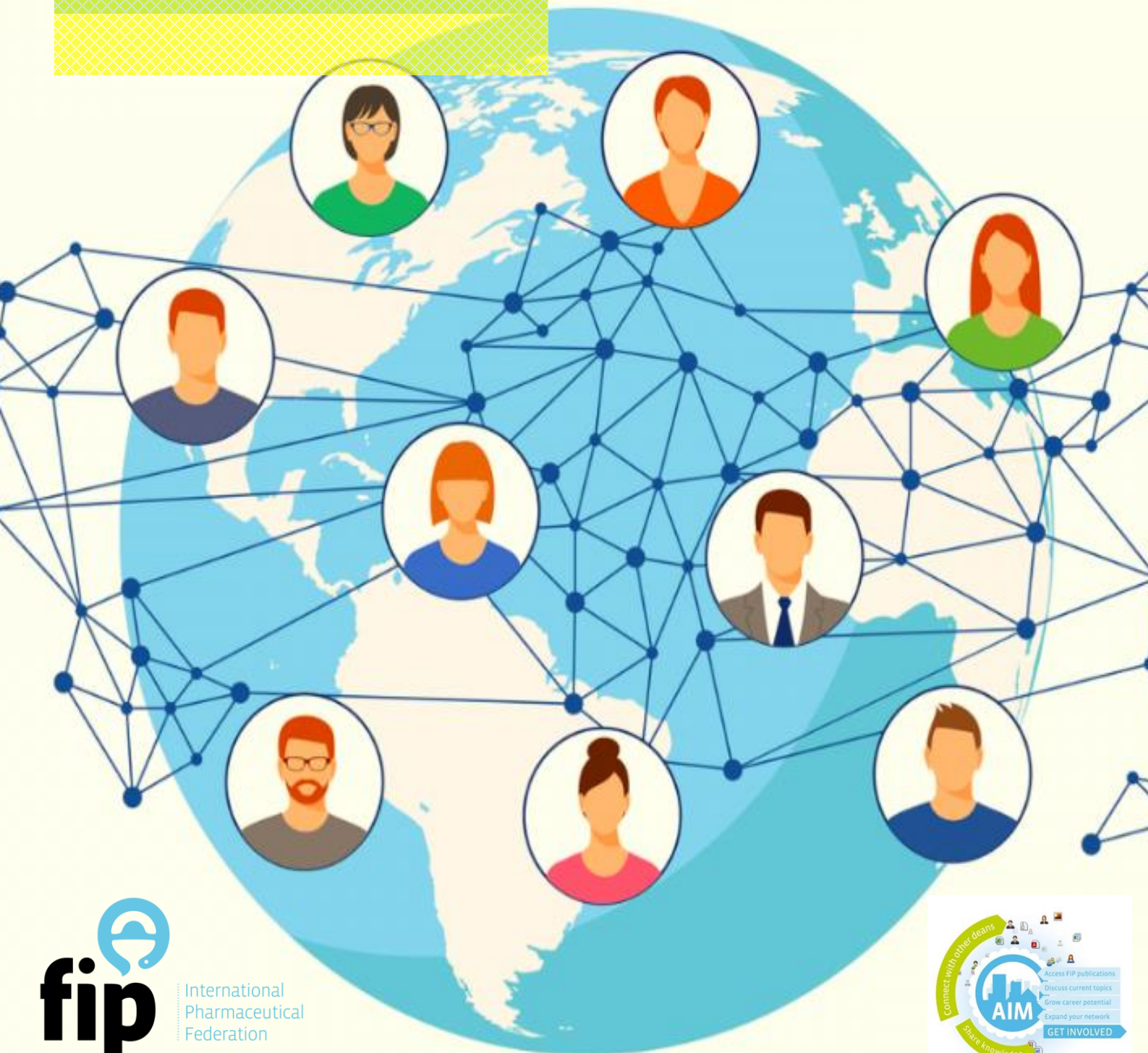


Advancing pharmacy and pharmaceutical sciences through the academic capacity assessment handbook



FIP AIM

2024



Colophon

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Recommended citation

International Pharmaceutical Federation (FIP). Advancing pharmacy and pharmaceutical sciences through the academic capacity assessment handbook. The Hague: International Pharmaceutical Federation; 2024

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Acknowledgements

FIP acknowledges the insights, input and participation of the following FIP AIM members, officers and team members for their contributions to this publication.

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Foreword from FIP President

The "Advancing pharmacy and pharmaceutical sciences through the academic capacity assessment handbook" represents a significant step forward in our ongoing commitment to elevate pharmacy education and, consequently, the pharmacy profession globally.

Pharmacy education serves as the foundation upon which the strength and future of the pharmacy profession is built. It is the bedrock that prepares pharmacists and pharmaceutical scientists to meet the diverse and dynamic health needs of communities worldwide. In this rapidly changing healthcare environment, where pharmacists are playing increasingly pivotal roles, the importance of a robust and forward-thinking educational framework cannot be overstated.

This publication is an embodiment of our collective vision to continuously enhance the quality of pharmacy education. It provides valuable insights and practical tools from FIP AIM members to assess and improve academic capacity. By addressing various facets of pharmacy education, from interprofessional education to policy and strategy development, this publication lays down a roadmap that institutions, educators, and policymakers can follow.

This handbook is more than just a resource; it's a catalyst for change. It encourages critical evaluation and proactive adaptation, ensuring that our educational systems keep pace with and anticipate and shape the future of healthcare. It underscores the need for a harmonious blend of traditional knowledge and innovative practices, thereby ensuring that our graduates are not only competent, but also agile and ready to lead.

I am confident that this capacity assessment handbook will help serve as a key instrument in shaping the future of pharmacy education and, by extension, the pharmacy profession. It will aid in developing a workforce that is well-equipped to tackle current challenges and seize future opportunities. This, in turn, will ensure that pharmacists and pharmaceutical scientists continue to make significant contributions to global health and well-being.

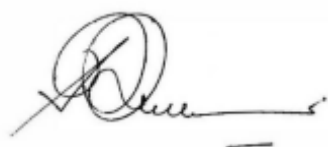
In closing, I extend my gratitude to FIP AIM members involved in the creation of this vital publication. Your dedication and expertise are invaluable in our quest to advance pharmacy education and practice. Let us continue to work together, inspired by our shared goals and united in our efforts, to forge a brighter future for pharmacy and healthcare worldwide.

Forward with pharmacy, forward with FIP.

Paul Sinclair

President

International Pharmaceutical Federation (FIP)



Foreword from FIPed Chair

Pharmacy workforce development is a cornerstone of FIP's mission for achieving shared goals of advancing pharmacy practice, science and education to improve global health. As this publication demonstrates, academic workforce capacity and development is a global need and the essential element that supports overall pharmacy workforce development.

As stated by FIP President Paul Sinclair in his Foreword, education is the bedrock upon which we build the profession be that practice, science, research, administration, leadership. Our obligation as educators/academicians is to ensure we remain contemporary and future oriented to assure we provide students and trainees with competencies and abilities to lead the profession forward. This report provides strategies, insights and tools to assist academic institutions and individual faculty members meet this commitment. It addresses academic capacity needs in both foundational education and more advanced training through continuous professional development to maintain currency in the rapidly advancing world of medicines, therapies and technology underscoring the need for life-long learning.

This publication serves not only as a guide for building and maintaining academic capacity, it serves as an incentive to drive the change needed to advance education. Through this work, we are called upon to embrace:

Change

As Albert Einstein stated: "The thinking that got us to where we are is not the thinking that will get us to where we want to be."

Professional development

Enhancing academic capacity will require continuous professional development that academic future-oriented education programmes.

Technology

Technology advances quickly and the need for continuous upskilling of the faculty is critical.

Advocacy

Pharmacists and educators have been reluctant to fully engage in advocacy for the profession and for education. We need to change that paradigm. The faculty and school leadership must lead this change and engage students in the power of advocacy for the profession.

Partnerships

This report provides a comprehensive view of what it takes to assure pharmacy education not only keeps pace with the changing times in science and practice but also prepares graduates for the future. It underscores the need for academic institutions and individuals in them to continuously seek professional development, innovation and improvement and pursue partnerships to advance key aspects of pharmacy education. Recognizing that not every institution has all of the resources needed to meet this goal of continuous improvement, FIP provides resources, such as AIM and UNITWIN, to promote and support partnerships, collaborations, networking and learning from each other to help all of us advance pharmacy education.

Thank you to the editors for initiating and leading this effort and all of the authors who contributed to this report for their expertise and commitment to advancing pharmacy education, practice and science.



Ralph J. Altieri
FIP Education Chair

Executive summary

The FIP Academic Institutional Membership (AIM) is the global network interconnecting schools of pharmacy and academic pharmacy leaders. The vision of FIP AIM is to advance leadership in education of pharmacy and pharmaceutical sciences. Its mission is to support communication, collaboration and focus on areas of concentration that are identified as global relevance for the evolution of pharmacy education in support of the profession's transformation within the FIP Workforce Development Goals.

This is the second in a series of handbooks developed by FIP AIM as a result of the work undertaken within an area of concentration. The focus of the area of concentration was academic capacity. Academic capacity building facilitates actions that contribute to ensuring quality and relevance of pharmacy and pharmaceutical sciences education. Capacity building is essential to guarantee that education is responsive to the transformation of the profession in alignment with sustainable workforce development that is in positive support of socio-economic needs within the healthcare ecosystem.

Building academic capacity was identified as an area of concentration for FIP AIM in response to membership needs, data from the FIP-UNITWIN workshops, and as an action towards strategic outcomes for FIP in terms of ensuring educational infrastructure that supports innovation in pharmaceutical sciences and collaborative integrated healthcare. For this action, the FIP AIM working group adopted the concept of academic capacity building considering three dimensions of capacity development, namely the development and strengthening of skills, competencies, attitudes and environmental aspects at individual, organisational and institutional levels. At the same time, the dimensions were applied from both internal and external perspectives. The internal perspective looks at academic capacity building in the academic environment whilst the external perspective addresses the academic and scholarly development of graduates to provide a pharmaceutical workforce that contributes to evolutions in science and practice of pharmacy and pharmaceutical sciences. The working group approached this action by reflecting on the domains that are relevant to the dimensions and perspectives established, and by working on developing a framework that can be adopted by schools of pharmacy globally to establish gaps and identify challenges specific to that context. This would provide the leadership team with a metric to support strategic development, and methods that can be adopted to contribute to academic capacity.

The handbook consists of nine domains that cover: 1) professional development, partnerships and advocacy; 2) mentorship, diversity and internationalisation; 3) quality assurance, curriculum design, experiential learning and portfolios; 4) technology and digitalisation; 5) capacity and capability of teaching staff; 6) innovations in programmes of study; 7) scholarly activities and research expectations; 8) distance and online learning; 9) support staff; and, 10) policy and strategy development, and implementation for capacity building. The domains connect horizontally so that there are areas which overlap. At the same time, each domain may be applied separately, providing the flexibility for application within the different global contexts and needs.

In conclusion, the academic capacity assessment handbook aims to contribute to bridging the gap between capacity building in pharmacy education and improved health outcomes, and to support academic pharmacy leaders to identify and implement innovative strategies for academic capacity building. It is hoped that this handbook has a snowball effect and following its use in different schools of pharmacy around the world, the handbook can be evolved in order to strengthen its robustness and practicality. We look forward to hearing of experiences of application of the handbook or parts of it.

Educational advancements with the FIP development goals

The FIP Development Goals (DGs) provide a comprehensive framework for transforming the global pharmacy and pharmaceutical sciences landscape. This publication aligns with key DGs, focusing on [Academic capacity](#) (DG 1), [Continuing professional development strategies](#) (DG 9), [Quality assurance](#) (DG 3), [Advanced and specialist development](#) (DG 4), and [Leadership development](#) (DG 6). Emphasising educational excellence, lifelong learning, and leadership in pharmacy, this publication aligns with FIP's mission to meet evolving healthcare needs. For more details on FIP Development Goals, visit our website [FIP Development Goals](#).

1. Professional development, partnerships and advocacy

This section explores diverse aspects of pharmacy education, including interprofessional partnerships, leadership, and advocacy for workforce capacity building. It highlights the importance of interprofessional education in fostering collaborative learning and practice-ready graduates. Continuous professional development is emphasised for ongoing competency, and academic institutions contribute through various opportunities. Leadership and advocacy components aim to prepare pharmacists for diverse roles and advocate for the profession in evolving healthcare landscapes.

Focus areas explored in the handbook include:

Interprofessional education	Continuous professional development	Leadership in pharmacy	Advocacy in pharmacy and pharmaceutical sciences
<ul style="list-style-type: none"> • Adequate infrastructure • Availability of technology • Pedagogical adaptation and implementation • Faculty training and skill development • Student engagement and interaction • Assessment • Facilitation • Acceptability 	<ul style="list-style-type: none"> • Integration with professional practice • Diverse learning formats • Relevance to emerging trends • Assessment and impact analysis • Incentivisation and motivation 	<ul style="list-style-type: none"> • Cultivating leadership mindset • Mentorship and role models • Diversity in leadership • Institutional support for leadership development • Leadership competencies assessment 	<ul style="list-style-type: none"> • Education on the role of advocacy • Active policy engagement • Stakeholder collaboration • Advocacy impact metrics • Empowerment through advocacy training

2. Global engagement in mentorship, diversity, and inclusion

Enriching the academic community, including academics, support staff, and students, through positive role models is crucial for capacity building. Learning from others' experiences, engaging in constructive discussions, and embracing innovation in education, science, and practice contribute to sustainable pharmaceutical workforce development. Furthermore, successful capacity building begins with recruiting students into the programme, offering mentorship opportunities, and fostering diversity. This section explores recruitment of students, mentorship tailored to students and support staff, and diversity both within academic institutions and internationally.

3. Quality assurance, curriculum design, experiential learning and portfolios

In the dynamic healthcare landscape, advancing pharmacy practice requires concurrent progress in education. This involves enhancing teaching scholarship, fostering networking for sharing best practices, and equipping educators for

effective curriculum design and assessment. Thus, quality assurance, innovative curriculum design, experiential learning, and portfolio use are vital components. The handbook explores:

- Skill development in curriculum design and assessment
- Career progression
- Student engagement and interaction
- Quality assurance and standardization
- Assessment
- Experiential learning
- Admissions
- Horizon scanning

4. Technology and digitalisation

In the era of digital transformation, pharmacy education will undergo a significant shift by integrating technology infrastructure, artificial intelligence (AI), and digitalization. This transformation aims to reimagine and prepare future pharmacists for a digitally advanced healthcare landscape. This section of the handbook explores:

Digitalisation	Artificial intelligence
<ul style="list-style-type: none"> • Availability of technology infrastructure • Faculty training and skill development • Student engagement and interaction • Quality assurance and standardization • Assessment and proctoring • Data privacy and security • Intellectual property and copyright Issues 	<ul style="list-style-type: none"> • Regulations and ethical considerations • New role of faculty • Integration with curriculum • Faculty/student training and support • Pedagogical adaptation • Acceptability • Reliability of application of AI in education processes

5. Capacity and capability of teaching staff

In pharmacy education, the capacity and capability of teaching staff significantly impact learning effectiveness and programme success. Aligned with the [FIP Global vision for education and workforce development](#), a well-equipped and adequately staffed environment is crucial for developing a competent pharmaceutical workforce. This section of the handbook explores:

- Capacity of academic staff
- Academic management quantity
- Proportion of pharmacists as academic staff
- Proportion of practitioners as academic staff
- Missing expertise among academic staff

6. Innovations in programmes of study: Delivery, design, and content

Pharmacy education needs to adapt to healthcare demands and scientific progress. The [FIP global symposium report](#) guides this evolution, emphasising innovation in programmes and faculty development. This section of the handbook explores key focus areas such as:

- Flexibility of programme by-laws supported by the institution's policies and regulations.
- Facilities, resources and financial support.
- Faculty training programmes.
- Align student needs with market needs.

- Student registration and feedback
- Assessment methods and certification.

7. Scholarly activities and research expectations

Scholarly activities and research are vital in pharmacy education, fostering innovation and evidence-based practice. This section of the handbook explores key elements such as:

- Technical facilities
- Infrastructure
- Research funding
- Institution prioritisation of research activities
- Motivation of faculty members to research
- Faculty involvement
- Research outcomes
- Research degrees awarded.
- Participation in conferences/seminars
- Collaborations
- Data security (archival and computer systems)
- Process documentation
- Human resource capacity

Effective scholarly activities and research in pharmacy education not only contribute to the scientific community but also enhance the learning experience, ensuring that graduates are well-equipped to contribute to the evolving field of pharmacy.

8. Development of distance and online learning

The integration of distance and online learning reflects adaptability and a strategic commitment aligned with the [FIP Global vision for education and workforce development](#). This approach aims to create accessible, flexible, and inclusive educational environments, challenging traditional norms and fostering innovation. Distance and online education transcend geographical boundaries, offering flexibility and quality education. While presenting unique challenges, such as technology infrastructure and regulatory support, embracing these modalities is crucial for a resilient pharmaceutical workforce. Educational leaders play a key role in aligning online education with institutional goals, ensuring academic integrity, and fostering a supportive learning community. The integration of distance and online education is pivotal in shaping the future of pharmacy training and career progression, contributing to the global vision of a competent pharmaceutical workforce.

This section of the handbook explores the following areas of focus:

- Availability of technology infrastructure
- Accreditation/regulatory support
- Administrative support
- Faculty support
- Expertise in online education
- Student support
- Curricular considerations
- Course delivery
- Academic integrity

9. Roles of support staff: Administration, instructional development, and student counselling

Support staff in pharmacy education are crucial for nurturing a resilient pharmaceutical workforce. Administrative personnel implement strategic plans, ensuring adherence to quality standards and responsiveness to healthcare dynamics. Instructional development experts align strategies with diversity and innovation, ensuring current and future relevance in pharmacy education. Student counsellors foster wellness and workload balance, contributing to students' professional identity and patient-centered care readiness. This section of the handbook explores the following areas of focus for support staff roles:

- Human resource capacity
- Training and skill development
- Academic support with curriculum development and delivery format
- Career progression
- Student engagement and interaction
- Quality assurance and standardization
- Student and staff well-being support

10. Strategic policy development and implementation

The advancement of pharmacy education requires strategic policy development and implementation. This approach integrates diverse roles in the pharmaceutical workforce, emphasising quality assurance, regulatory standards, and responsiveness to evolving healthcare needs. Policies should be dynamic, reflecting current and future pharmacy trends, covering admissions, curriculum, research, and experiential learning. Collaboration among institutions, healthcare organizations, and governmental bodies is also crucial for effective policy implementation and advocacy.

Therefore, pharmacy education must address evolving practice scopes, emphasising clinical skills, teamwork, and technology advancements. Additionally, cultural competency training, continuous professional development, and affordability considerations are essential components for comprehensive and effective pharmacy education policies.

This section of the handbook explores the following areas of focus in strategic policy development:

- Alignment with global health needs
- Interprofessional collaboration
- Regulatory compliance
- Resource allocation
- Stakeholder engagement
- Innovation in curriculum design
- Faculty development
- Student-centered approaches
- Quality assurance
- Research integration
- Cultural competency
- Technology and automation advancements
- Public health orientation
- Sustainability

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handbook / 2024