

Strategies to improve enrolment in schools of pharmacy

FIP AIM handbook (Summary version)

2023



Colophon

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International Pharmaceutical Federation (FIP)

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Foreword

FIP AIM members benefit from FIP's global credibility, extensive networking opportunities, its unsurpassed knowledge base and convening power. FIP AIM has prepared this handbook to provide you with an evidence-informed approach from AIM members to improve enrolment processes in schools of pharmacy and to support decision-making for enrolment strategies related to pharmacy and pharmaceutical sciences education.

This handbook is a source of information not only for academic pharmacy leaders, but also for students who are considering a career in the pharmacy profession. As academic pharmacy leaders, it is our duty to ensure that students derive maximum benefit from their education. Therefore, the handbook enables the attainment of pharmacy education with real-life examples from AIM members.

This handbook also provides a direct linkage with the FIP Development Goals (DGs), especially on DG 6 (Leadership development). The FIP DGs bring science, practice, workforce and education into one transformative framework for our members and the wider profession. It is in FIP's mission to enable educational and scientific transformations to advance our profession. We believe, and have seen, that there can be no pharmacy practice without the pharmaceutical workforce. And there can be no pharmaceutical workforce without educational and scientific institutions.

Having successful enrolment strategies is a key link in pharmacy and pharmaceutical sciences education and contributes actively to better pharmacists. This handbook will support you to make significant contributions to academic pharmacy, to your institution and to your students' careers, with an ultimate goal of transforming our profession.



Mr Dominique Jordan
President, FIP



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Chief Executive Officer, FIP



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FIPed Chair

Information about the handbook

This document serves as a condensed subset version of the FIP AIM (Academic Institutional Membership) handbook on Strategies to improve enrolment in schools of pharmacy. It provides a brief overview of the original handbook, highlighting key topics and sections related to enhancing student enrolment in pharmacy schools globally. The complete handbook, which is exclusively available to FIP AIM members, offers comprehensive details, in-depth examples, and additional resources to support academic leaders in the field of pharmacy education.

Please note that this subset version aims to provide a concise overview of the handbook's contents, and it is recommended to refer to the full version for a more comprehensive understanding of the strategies and examples discussed. The original handbook encompasses a wide range of approaches, resources, and case studies to address the challenges faced by pharmacy institutions in improving enrolment, enhancing professional recognition, and preparing graduates for diverse career opportunities.

We encourage AIM members to access the complete handbook to delve deeper into the extensive resources and practical solutions it offers. For global academic leaders or academic institutions who are not yet members of FIP AIM but are interested in joining and accessing the full handbook, please reach out to aim@fip.org for further information.

The FIP AIM initiative strives to foster collaboration, communication, and idea-sharing among schools of pharmacy and academic pharmacy leaders worldwide. Through the publication of this handbook and future AIM publications and working groups, we aim to empower pharmacy academic leaders to transform pharmacy and pharmaceutical sciences education, equipping future generations to effectively address global health needs.

Together, let us work as One FIP to advance the field of pharmacy education and contribute to the betterment of global healthcare.

Executive summary

Student enrolment has become an issue for several schools of pharmacy around the world, despite the desperate need for additional healthcare professionals to care for our ageing populations. A subgroup of FIP AIM members from different countries who were interested in this topic convened regularly online over the course of 2022 to propose a series of solutions to this important issue. Because the reason for enrolment problems in each school are likely to be different, the group prepared examples of activities that can be applied to address enrolment from different angles, including increasing or maintaining enrolment numbers, enhancing recognition of the profession and preparing graduates for multiple work opportunities.

A logic model was followed, so that each activity is described in a pragmatic approach, provides measures (output) when available and lists the resources needed to conduct the activity. The handbook does not pretend to encompass all possible recruitment activities, but nonetheless it represents more than 30 ideas that can be implemented to tackle this important issue that can threaten the sustainability of a school. Please note that this is a condensed version of the chapters provided, and the original handbook contains more details, examples, and resources.



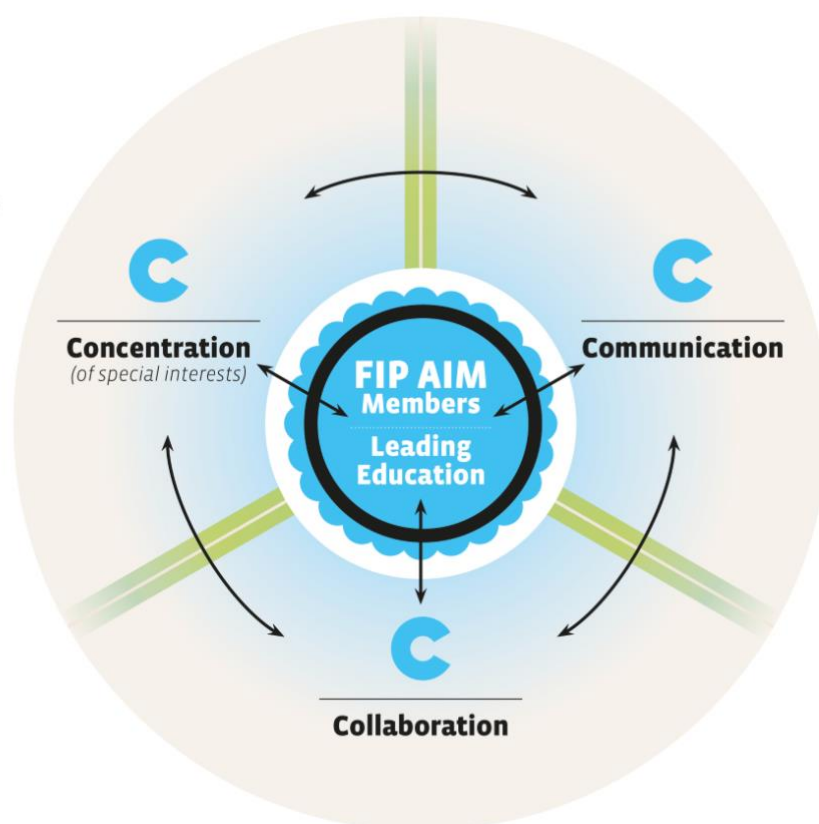
1 Introduction

1.1 Background

FIP recognises the prominent role of schools of pharmacy and pharmaceutical sciences in providing the foundation for our profession and therefore developed the FIP Academic Institutional Membership (AIM). FIP AIM is the only global network interconnecting schools of pharmacy and academic pharmacy leaders around the world for communicating, collaborating and sharing ideas around areas of interest related to academic leadership. The vision of FIP AIM is to advance leadership in education of pharmacy and pharmaceutical sciences. Its mission is to support “communication” and “concentrations of special interests” to create win-win “collaborations” (the 3Cs).

The 3x3C's of FIP AIM Strategy

Concentration (of special interests)
Communication
Collaboration



The COVID-19 pandemic highlighted the requirement for current and future pharmacy education to be improved to strengthen the pharmacy profession and improve resilience. With the demand and options at higher education levels increasing, enrolment strategies are becoming more critical to pharmacy institutions. From attracting and recruiting students, through career development after graduation, the development of new strategies is required to support the future of pharmacy schools around the world.

FIP AIM organised a digital event on “[Increasing enrolment in higher education to strengthen and improve the pharmacy profession](#)”, where keynote speakers defined key areas of challenge in pharmacy education regarding prospective students, including attracting, training, developing and leading them, and also identified new ways to develop the pharmacy profession such that it is strengthened and is continuously improved.

A subgroup of FIP AIM members came together to discuss issues and challenges related to student enrolment in schools of pharmacy. Indeed, student enrolment has been identified as a universal concern that could benefit from receiving a thorough reflection from academic leaders of different countries from different regions of the world. This handbook represents the first area of concentration explored by FIP AIM.

1.2 Purpose

By facilitating collaboration between FIP AIM members, the subgroup focused on devising a practical handbook aimed at improving pharmacy school enrolment.

The specific objectives of the handbook are to:

- Develop strategies to recruit more and better students into pharmacy schools using traditional and social media;
- Advocate for the profession, its scope of practice, and its importance in the healthcare system; and
- Reflect on a global integrated approach to foster student interest and improve admissions.

1.3 What we did

FIP AIM members shared case studies and experiences* with academic pharmacy leaders, and the following AIM members met every three weeks during 2022 to complete the work:

- Ahmed Al-Abd, College of Pharmacy, Gulf Medical University, United Arab Emirates
- Ana Khusnul Faizah, Hang Tuah University, Indonesia
- Ahmed Salah Eldalo, University of Palestine Al-Zahra City, Faculty of Medicine and Health Sciences, Palestine
- Brian Hemstreet, University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences, USA
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- Toyin Tofade, Albany College of Pharmacy and Health Sciences, USA
- Wendy Cox, University of North Carolina at Chapel Hill Eshelman School of Pharmacy, USA
- Yulia Ladutko, St. Petersburg State Chemical Pharmaceutical University, Russian Federation

*Note: Experience and examples vs literature review (publications). Literature exists for all to read. FIP AIM members focused on practical activities coming from real-world experiences to be shared with other schools of pharmacy. An effort was made to present the most significant and original activities for each objective (output).

The first task was to design a framework to organise the handbook. A logic model approach (Figure 1) was proposed; this is developed by looking at outcomes, outputs, activities and resources with the objective of attaining the expected impact, which in this case was to improve student enrolment.

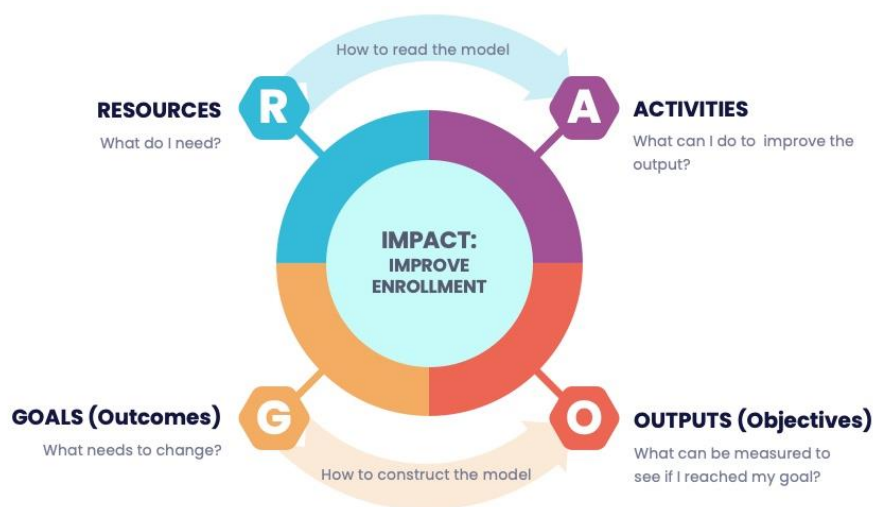


Figure 1: The logic model used as a framework to develop the handbook.

In Figure 1:

- Outcomes are long-term goals, the benefits expected. Outcomes answer the question of what needs to change.
- Outputs are measurable objectives (SMART objectives) and are short-term goals that will contribute to the long-term goal. Outputs address what can be measured to document the change.
- Activities are concrete actions that will lead to a change in the output. Activities have to be tailored to a specific audience and address the question of what can be done to improve the outputs measured.
- Resources regroup human resources, funds and the equipment and infrastructure needed to conduct the activities. Resources answer the question of what is needed.

FIP AIM members then brainstormed on the main goals (outcomes) to achieve improved enrolment. For each outcome, outputs supporting the goal were discussed. Finally, activities to address the outputs were collected from the experiences of the schools represented.

A mind map (Figure 2) was then used as a template to start collecting examples of activities from members of the group for each output. Some activities could serve several outputs, but they were located only at one place on the map. Some were connected with dotted arrows. This also explains why the number of activities declines in the second and third goals (outcomes).

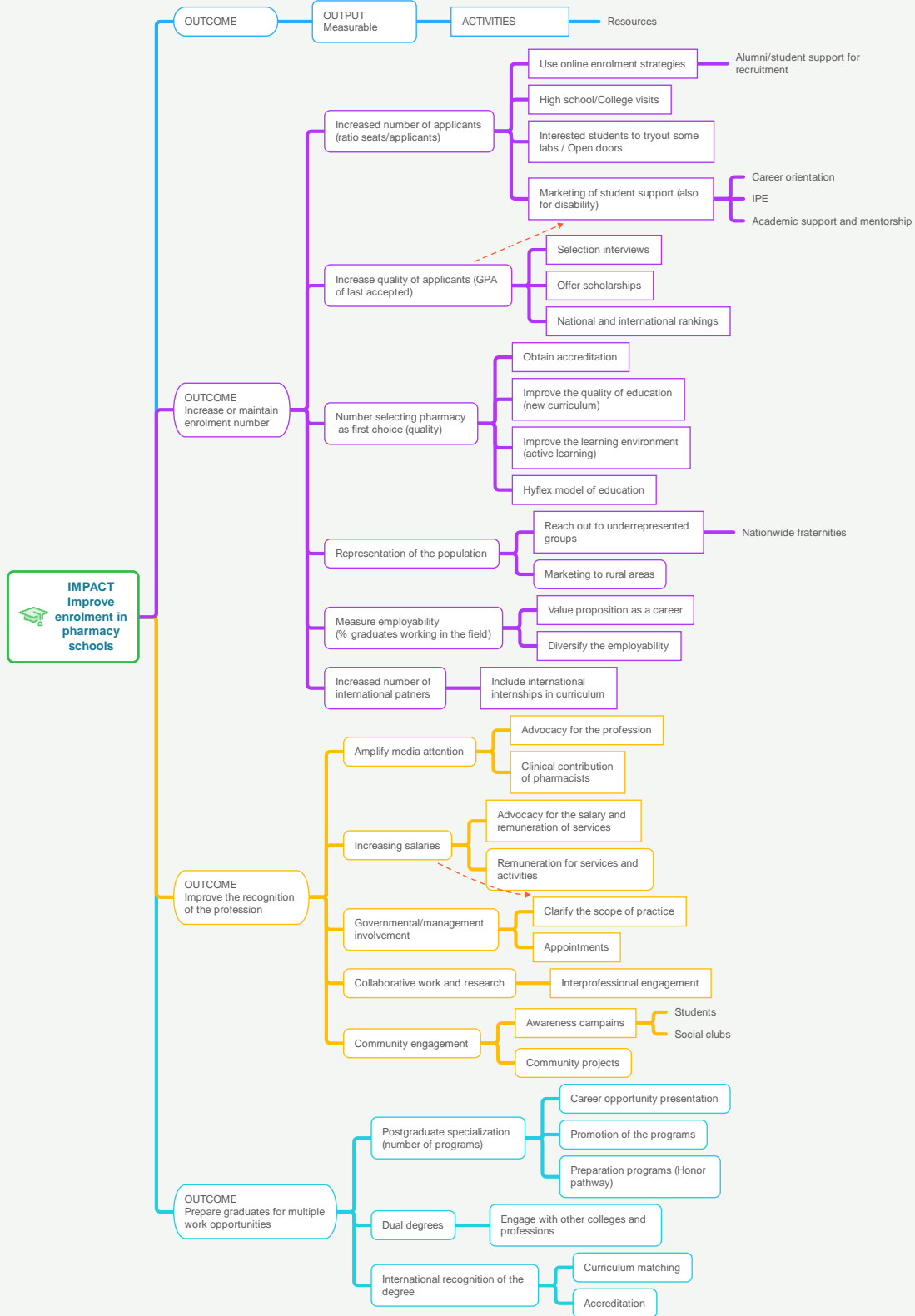


Figure 2. Mind map of the logic model.

2 Increasing or maintaining enrolment numbers

2.1 Ways to increase numbers of applicants

2.1.1 High school/college visits

Report from [International Medical University \(IMU\)](#)

- Conduct school visits as part of an outreach programme.
- Organise science camps to enrich high school students' pharmacy education.
- Demonstrate the relevance of pharmaceutical science in daily life.
- Engage with schoolteachers and students to raise public awareness of science and pharmaceutical sciences.
- Provide hands-on experiences and interactive sessions to make learning science enjoyable.

2.1.2 Mini pharmacy (open door)

Report from [RCSI University of Medicine and Health Sciences](#)

- Offer virtual webinars to secondary school students to provide insights into pharmacy training and working as a pharmacist.
- Include talks by pharmacists from different practice settings, focusing on their career choices, day-to-day jobs, and enjoyable aspects.
- Allow students to ask questions during the presentations.
- Publicise the event to students and schools, using promotional materials.
- Utilise online platforms for the webinar and collect feedback through surveys.

2.1.3 Pharmacists for a day

Report from [University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences](#):

- Bring primary school students to campus to learn about pharmacy.
- Create a fun game format for learning about medicines.
- Carry out activities to differentiate medicines from sweets and engage in compounding.
- Organise a "white coat ceremony" and provide certificates to participants.
- Consider sending information to parents about the school and the profession.

2.1.4 Marketing of student support

Report from [University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences](#)

- Enhance the website with a resources page to showcase available student support.
- Create a separate career services site with testimonials and employment information.
- Provide an overview of student support during interview days.
- Highlight services such as tutoring, mentoring, disability services, health support, housing, and career services.
- Conduct information sessions for virtual interviews and follow up with student ambassadors.

2.2 Ways to increase the quality of applicants

2.2.1 Structured onsite and virtual interviews

Report from [University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences](#)

Utilise both virtual and onsite interviews for a holistic review of candidates.

Incorporate activities throughout the day to provide touchpoints with faculty members, staff, and students.

Conduct structured interviews with faculty members using open-ended questions to assess personal characteristics and allow for questions.

Evaluate applicants' answers, professionalism, and communication skills.

Document candidate questions for website or future communications.

Faculty member presentations focus on active research or clinical practice.

2.2.2 How can scholarships support enrolment?

Report from [Future University](#)

Offer scholarships based on factors such as financial need, academic achievement, community involvement, and leadership skills.

Provide entrance scholarships for first-year students, including full or partial tuition support and sibling scholarships.

Consider performance-based incentives or awards for top-ranked students.

Extend funding for items other than tuition, such as rent, transportation, and food.

Explore sports scholarships, funding for senior students, and incentives for training opportunities.

Provide incentives for continuing education courses and postgraduate scholarships.

Engage board of trustees and community partners for scholarship support.

2.2.3 Marketing diverse types of scholarship

Report from [Future University](#)

Promote scholarships during recruitment, school visits, and education fairs.

Remind students of scholarships available in their second year and beyond.

Simplify and engage the application process, clearly identifying deadlines.

Utilise social media to notify students about new awards, incentives, and upcoming deadlines.

Involve the promotion and marketing sectors for effective scholarship promotion.

Assign personnel to manage the website and update scholarship information and announcements.

2.2.4 Equitable access to funding opportunities

Report from [Future University](#)

Offer on-campus jobs accessible to all students, not just those in financial need.

Interview students to understand their preferences for financial support.

Make all scholarship opportunities available to all students.

Provide special scholarship opportunities for international students.

2.3 Making pharmacy the first choice for students

2.3.1 Accreditation (credit transfer)

Report from [International Medical University \(IMU\)](#)

Credit transfer allows students to transfer credits from one institution to another.
IMU Malaysia and UTas Australia signed a memorandum of understanding for credit transfer in pharmacy.
IMU pharmacy students complete the first two years at IMU and transfer to UTas.
Modules successfully completed at IMU are credited towards the degree at UTas.
Provides an affordable option for Australian education and overseas degree.
Gives students exposure to two leading universities in Malaysia and Australia.

2.3.2 Improved curriculum

Report from [Kathmandu University](#)

Regularly upgrade the curriculum to incorporate new developments in pharmacy.
Balancing weightage of basic science courses with practical courses.
Increased emphasis on pharmacology, pharmacotherapeutics, and pharmacoconomics.
Revamped admission procedures in Nepal since 2020.
Decreased student enrolment due to lack of scholarships, but student numbers increased in subsequent admissions.

2.3.3 Learning environment (active learning)

Report from [Kathmandu University](#)

Encourage active learning and critical thinking skills.
Incorporate case studies and problem-based learning approaches.
Increase students' involvement in community healthcare issues.
Emphasise laboratory work and hands-on learning.
Provide practical exposure and laboratory skills for students.
High interest among students in joining the university for pharmacy programmes.

2.3.4 Implementation of active learning modalities in pharmacy education

Report from [Kuwait University](#)

Kuwait University created an "active learning committee" to develop an active learning framework.
Framework defines when and how active learning methods can be used.
Organise workshops to explain the framework and practice active learning modalities.
Positive feedback from students and educators on the impact of active learning.
Focus on student engagement and creating a successful learning environment.

2.3.5 Remote learning cohort and use of virtual attendance for core classes

Report from [University of Colorado Skaggs School of Pharmacy and Pharmaceutical Sciences](#)

Incorporated an embedded remote learning cohort for rural or out-of-state students.
Students attend classes virtually via Zoom and come to campus for on-campus activities.
Educational supplies are mailed to remote students, and testing is conducted online.
Most courses offer a live Zoom option for flexibility in attendance.

Evaluating student performance for remote cohort versus on-campus students.
Resource-intensive approach requiring coordination and training.

2.4 Achieving better representation of the population

2.4.1 Marketing of rural practice and alumni

Report from [University of Colorado Skaqqs School of Pharmacy and Pharmaceutical Sciences](#)

Multi-tiered approach to marketing rural pharmacy practice
Collaboration with stakeholders for experiential opportunities and scholarships
Utilisation of alumni working in rural areas to showcase practice and lifestyle in rural Colorado
Requirement for students to complete at least one rural Advanced Pharmacy Practice Experience (APPE)
Partnership with campus-based area health education centre office to provide free student housing
Exploration of a rural area of focus within the curriculum
Partnership with the School of Medicine for rural curricular initiatives

2.5 Fostering international partnerships

2.5.1 Developing international rotations or experiences

Report from [Howard University](#)

Goal-oriented and collaborative approach to creating international partnerships
Identification of willing institution partner
Importance of developing relationships and having meaningful conversations
Understanding the site learning environment and learning goals for students
Agreement between host or preceptor and the school/college on meeting needs
Consideration of experience format (virtual vs in-person, interprofessional or pharmacy-focused)
Recommendation for an affiliation agreement or memorandum of understanding
Discussion on housing arrangements, insurance, health coverage, travel, rotation costs, visa process, and other requirements

2.5.2 International internship

Report from [International Medical University \(IMU\)](#)

Pharmacy students at IMU have opportunities for global experiences through elective or research placements
Financial support provided to meet travel expenses
Integration of knowledge, theory, and practical application in community or professional settings
Overseas research experience with collaborative projects and research grants
Hands-on experience in multinational research teams and use of laboratory equipment
Elective modules in hospital attachments to observe and apply clinical knowledge
International internships as valuable parts of the undergraduate programme at IMU
Opportunities for students to gain unique experiences and shape their future in pharmacy
Exposure to diverse cultures and exploration of the world

3 Enhancing recognition of the profession

3.1 Amplifying media attention

3.1.1 Highlight the clinical contribution of pharmacists

Report from [University of Malta](#)

Participation of faculty and clinical pharmacists in local television programmes
Dissemination of projects related to development of clinical pharmacy services through media channels
Outreach campaigns in community settings with pharmacy students providing patient monitoring services

3.1.2 Encourage community engagement

Report from [University of San Carlos](#)

Partnership with radio station for guest speaking on health-related topics
Webinars open to the public and broadcasted live on Facebook
Showcase of alumni and faculty expertise in webinars
Utilisation of local language for better access and relatability

3.1.3 Advocacy for the profession

Report from the [International Pharmaceutical Federation \(FIP\)](#)

Advocacy for greater support and protection for pharmacists and health workers
Calling on governments and policymakers to invest more in health systems
FIP's progress in its mission described in the Annual Report for 2021 and 2022

3.1.4 Highlight interprofessional engagement in primary healthcare service

Report from [University of Malta](#)

Experiential sessions in community pharmacies for students
Projection of community pharmacy as a healthcare service center
Dissemination of research projects on collaborative practices in community pharmacy

3.2 Increasing government involvement

3.2.1 Advocating an expanded scope of practice

Report from [Kuwait University](#)

Review literature on pharmacists' involvement in healthcare systems
Create a committee with academic and professional leaders to discuss the healthcare system and pharmacist's role
Identify key areas of pharmacy practice that need development
Propose recommendations addressing education, practice, and regulations
Develop an action plan for each recommendation
Ministry of Health in Kuwait created a national task force and approved a new scope of practice

3.2.2 Effective representation of professional pharmacy agenda within the health service

Report from *Irish Institute of Pharmacy* (hosted by [RCSI University of Medicine and Health Sciences](#))

Effective representation training for pharmacists working on multidisciplinary committees
 Request for expressions of interest to identify participants
 Training based on effective consulting models from the Tavistock Institute
 Online and face-to-face workshop sessions
 Training covered topics such as contracting, team effectiveness, communication, and handover
 Coaching support and peer network established

3.3 Supporting collaborative work and research

3.3.1 Interprofessional case discussions

Report from [University of North Carolina at Chapel Hill Eshelman School of Pharmacy](#)

Second-year pharmacy students form interprofessional teams with dental students
 Discuss a case addressing dental care and medication management
 Teach other health professional students in their group about their profession's approach to the case
 Facilitated by a pharmacy or dental faculty member
 Written recommendations provided on addressing the patient case
 Pharmacy students present the case, incorporating learnings from dental colleagues

3.3.2 Patient-centred clinical pharmacy activities

Report from [Kuwait University](#)

Geriatrics consultation service in the department of internal medicine
 Pharmacists provide patient-centered clinical activities at admission, during inpatient stays, and at discharge
 Attend morning meetings, complete assessments, and obtain medication histories
 Systematic approach to identify medication-related problems and potentially inappropriate medicines
 Daily medication review to monitor interventions and resolve medication-related problems
 Positive outcomes include high acceptance rate of pharmaceutical interventions and satisfaction from physicians, patients, and caregivers

3.4 Stimulating community engagement

3.4.1 Immunisation fairs

Report from [University of North Carolina at Chapel Hill Eshelman School of Pharmacy](#)

Student pharmacists provide immunisations in the community
 Students complete immunisation training and a certificate programme
 Vaccinations are administered under pharmacist supervision
 Clinics are organised by a student organisation

3.4.2 Awareness campaigns by students or association

Report from [Kathmandu University](#)

Students organise activities for social benefit in pharmacy and pharmaceutical sciences

Annual awareness programmes conducted, such as HIV/AIDS, cancer, and tuberculosis
Students raise awareness through infographics, videos, and social media

3.4.3 Community projects

Report from [Kathmandu University](#)

Students organise community-based programmes to enhance rural life
Projects include first aid training, health screenings, and disease awareness
Activities focus on non-communicable diseases, women's health, and sanitation

3.4.4 Professional services and activities (smoking cessation)

Report from [International Medical University \(IMU\)](#)

Pharmacists in Malaysia provide smoking cessation services
Certified Smoking Cessation Service Provider (CSSP) course is required
Services include counselling, medication prescriptions, and carbon monoxide tests

3.4.5 Health hub establishment with partner communities

Report from [University of San Carlos](#)

University collaborates with medical professionals for community outreach
Partnerships established for long-term care and health education
Activities include providing medications, patient profiling, and health education drives

4 Preparing graduates for multiple work opportunities

4.1 Postgraduate specialisation

4.1.1 Research preparatory programme

Report from [University of North Carolina at Chapel Hill Eshelman School of Pharmacy](#)

Research and Scholarship in Pharmacy (RASP) programme allows students interested in research to apply in their first year

Faculty members submit research proposals for students to work on

Students review proposals, meet with faculty members, and select projects

Students work on their RASP projects for three semesters

Students must complete a thesis summarising their project

Completion with a minimum GPA of 3.3/4 earns "honours" designation

4.1.2 Promotion of postgraduate education

Report from [International Medical University \(IMU\)](#)

Master's degree in pharmacy practice enhances pharmacists' competency

IMU offers the Master in Pharmacy Practice (MPP) programme

MPP focuses on clinical pharmacy, pharmacy management, social and administrative pharmacy, and clinical research

The programme is delivered in a mixed mode of face-to-face and online classes

Working pharmacists can pursue the programme part-time while maintaining their professional duties.

MPP alumni find employment in various fields within the pharmaceutical and healthcare sectors

4.1.3 Postgraduate clinical pharmacy

Report from [University of Malta](#)

Postgraduate clinical pharmacy education is gaining momentum globally

Highlighting postgraduate options attracts students and provides insight into career progression

Many European countries offer postgraduate courses in clinical pharmacy

Graduates from postgraduate programmes contribute to student recruitment and share their experiences

4.2 - Dual degrees

Dual degrees, such as PharmD and MBA, attract students with diverse interests

Bridging with other disciplines strengthens graduates' preparation for additional work opportunities

Partnering with established programmes and schools enhances the reputation of the institution

Other FIP AIM members can provide examples and guidance if interested

4.3 - International recognition of pharmacy degree

Seeking international accreditation validates the quality of education

It helps attract local and international students

The Accreditation Council for Pharmacy Education (ACPE) in the USA and the Canadian Council for Accreditation of Pharmacy Programmes (CCAPP) offer international certification and accreditation opportunities

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