

# Quality Assurance of Pharmacy Education: the FIP Global Framework

2<sup>nd</sup> Edition | 2014

Fédération  
Internationale  
Pharmaceutique

International  
Pharmaceutical  
Federation

Copyright © 2014 International Pharmaceutical Federation (FIP)



International  
Pharmaceutical  
Federation

FIP Education Initiative

Preparing the pharmacy workforce of the future:  
better science, better practice, better health care.

# Contents

<b>Foreword</b>	<b>05</b>
<b>Section A: Pre-requisites for Quality Assurance in Pharmacy Education</b>	<b>09</b>
1. A vision for pharmacy practice and professional education	09
1.1. Identifying national, societal, and population needs	09
1.2. Defining the pharmacist's role and contribution in health care	10
1.3. Developing a national, profession-wide vision for pharmacy practice and education	10
1.4. Involving stakeholders in assuring and advancing the quality of pharmacy education	11
1.5. Fostering commitment to change	12
2. Understanding the philosophy and purpose of quality assurance in pharmacy education	12
2.1. Considering different models for quality assurance	12
2.2. Embracing the concepts and elements of quality assurance	13
<b>Section B: Quality Criteria and Quality Indicators for Pharmacy Education</b>	<b>14</b>
1. Considering and addressing the <i>Context</i>	15
1.1. Establishing mission, goals and values of the school	15
1.2. Ensuring Social Accountability by the school	16
1.3. Quality Indicators related to <i>Context</i>	16
2. Establishing the right <i>Structure</i>	17
2.1. Achieving effective organization, administration, leadership and communication	17
2.1.1. Role and mission of the director of the school or professional degree programme	17
2.1.2. Organizational structure	17
2.1.3. Committees	17
2.2. Developing collaborative relationships	18
2.2.1. Collaboration within the university	18
2.2.2. Other collaborative relationships	18
2.3. Designing the Curriculum	18
2.4. Securing resources	19
2.4.1. Academic staff, other staff, and preceptors	19
2.4.2. Financial resources	19
2.4.3. Physical facilities	20
2.4.4. Facilities for pharmacy practice experiences	20
2.4.5. Library and learning/educational resources	20
2.5. Quality Indicators related to <i>Structure</i>	21
3. Employing the best <i>Process</i>	22
3.1. Strategic planning	22
3.2. Evaluation and assessment	22
3.3. Enrolment management	23
3.4. Academic policies and procedures	23
3.5. Student services	23
3.6. Student representation and input	23
3.7. Curricular development and improvement	24
3.8. Teaching and learning methodologies	24
3.9. Appraisal and development of academic staff, other staff and preceptors	24
3.10. Quality Indicators related to <i>Process</i>	25
4. Defining, achieving, and measuring the desired <i>Outcomes</i>	26

4.1. Educational outcomes and competencies	26
4.2. Research, publications and other scholarly activity	27
4.3. Service and community engagement	27
4.4. National and international collaboration	27
4.5. Quality Indicators related to <i>Outcomes</i>	27
5. Making an <i>Impact</i>	28
5.1. Influence and desired impact	28
5.2. Evaluation of impact	28
5.3. Pharmacists' Oath	28
5.4. Quality Indicators related to <i>Impact</i>	29
<b>Section C: The Quality Assurance Agency</b>	<b>30</b>
1. Establishing the structure, mandate and purpose of the quality assurance agency	30
1.1. Mission, terms of reference and scope of operations	30
1.2. Legal/statutory status	30
1.3. Recognition, authority and accountability	30
1.4. Degree of autonomy in decision making	30
1.5. Influence of market forces	30
1.6. Relationships with other organizations and stakeholders	30
2. Ensuring good governance and decision-making	30
2.1. Composition of the decision-making body	30
2.2. Criteria for appointment or selection of members	30
2.3. Members' terms of office	30
2.4. Officers	30
2.5. Members' orientation and training	30
2.6. Public input	30
3. Funding and sustaining operations	30
4. Implementing fair and effective policies and procedures	31
4.1. Board/committee/council operations	31
4.1.1. Procedure for school or programme evaluation	31
4.1.2. Meetings and decision-making process	31
4.1.3. Criteria on which decisions are based	31
4.1.4. Continuous quality improvement	31
4.2. Evaluation/recognition/approval	31
4.2.1. Requirements for initial application for evaluation/recognition/approval; eligibility criteria	31
4.2.2. Stages of evaluation/recognition/approval, including requirements for new programmes' progression through these stages	31
4.2.3. Evaluation/recognition/approval cycle	31
4.2.4. Requirements for maintenance of recognition/approval, including reporting, annual monitoring data, ad hoc on-site evaluation visits/audits	31
4.2.5. Consequences of non-compliance with standards/quality criteria	31
4.3. Public disclosure/transparency	31
4.3.1. Published standards (quality criteria), policies and procedures	31
4.3.2. Board/committee/council decisions and actions	31
4.3.3. Recognition/approval status of school or programme	31
4.3.4. Disclosures by the school or programme	31

4.4. Policies and procedures	31
4.4.1. Confidentiality	31
4.4.2. Conflict-of-interest	31
4.4.3. Selection, orientation and training of evaluators	32
4.4.4. Substantive change (in the school or programme)	32
4.4.5. Appeals	32
4.4.6. Complaints	32
4.4.7. Revision/updating of standards	32
4.4.8. Safeguards for students	32
<b>Conclusion</b>	32
<b>Section D: Glossary</b>	33
<b>References</b>	35
<b>Additional literature</b>	35
<b>Acknowledgments</b>	36

# Foreword

## Purpose of the FIPed Global Framework for Quality Assurance and the Intended Audience

This document is an updated and expanded version of the *FIP Global Framework for Quality Assurance of Pharmacy Education Version 1*, adopted by the International Pharmaceutical Federation (FIP) in 2008<sup>[1]</sup>. It is presented in four sections:

- **Section A** provides the context for quality assurance of pharmacy education and the important role that it plays not only to assure quality but to support initiatives that aim to expand and advance pharmacy education at the national level
- **Section B** provides quality criteria and quality indicators for pharmacy education
- **Section C** provides a framework for a national quality assurance system, either governmental or non-governmental
- **Section D** provides a glossary of terms, explaining how they are used in the document

The Framework is intended as a companion piece to FIP's *Statement of Policy on Good Pharmacy Education Practice* (adopted September 2000)<sup>[2]</sup>. The latter document is aimed primarily at **pharmacy educators** and **education policy-makers**, as it provides a conceptual framework for the design, implementation, and assessment of contemporary educational programmes - a somewhat different, though complimentary focus from that provided by this document.

In September 2009, FIP adopted its *Statement of Policy on Quality Assurance of Pharmacy Education*<sup>[3]</sup>. The first edition of the Global Framework served as the resource document for the statement, and the statement includes a number of recommendations - based on the principles contained in the Framework - that are directed at national governments, regulatory and quality assurance organizations, FIP member organizations, universities, colleges and schools of pharmacy. Readers are encouraged to refer to the Statement of Policy for specific recommendations that apply to them. This document has the same intended primary audiences. Additionally, individuals may find the document useful to guide and inform their own quality improvement initiatives in their specific area of expertise and involvement related to pharmacy education and/or its quality assurance.

The Framework is offered primarily as a tool - to be used in whole or in part - to facilitate the establishment of systems of quality assurance in countries where no such formal systems exist or for improvement of existing systems. Where regional similarities and collaborations exist, the Framework may also be applied at a regional rather than national level. Where resources or other constraints limit the immediate application of some of the principles outlined in the Framework, it is hoped that the document can serve as a "road map" for the future.

The Framework is intended as a foundation and starting point that can be adapted and built upon to suit national needs, systems, and conditions. The Framework focuses on the elements that need to be included, and how these elements are applied in principle. It is likely that the Framework will primarily be used at a national level in the context of quality assurance or review by "external" evaluators (i.e., evaluators not from the school or institution being evaluated). It has already been used by a number of countries in this way. The Framework can, however, also be used by institutions - and even individuals - in their self-assessment and continuous quality improvement efforts. In this edition, the authors have tried to organize the main indicators of quality in a more practical way to ensure the document is more user-friendly and valuable.

## Why now? A global need to transform education, assure quality, and be socially accountable

Pharmacy practice and education are facing tremendous changes following new scientific discoveries, technology trends and evolving patient needs, as well as the advanced competencies required of pharmacists for current and future practice as health care professionals and in other roles in society. The basic level of practice has been improved, but many countries are facing critical shortages in their pharmacy workforce capacity in order to make a meaningful contribution to the country's health care system. There is a need to assure the development of an adequate and appropriately trained health care workforce, along with the academic and institutional infrastructure to deliver the required competency-based education and training. Therefore, many countries are introducing, expanding, or undertaking major transformations of pharmacy education.<sup>a</sup>

<sup>a</sup> This Framework is primarily intended to address the formal education of pharmacists; however, the principles of quality assurance described in this document should also apply to the education and training of other members of the pharmacy workforce.

Such developments must be accompanied by robust systems to assure the quality of the educational *context, structure, process, outcomes* (short and intermediate term) *and impact* (long term). The most visible outcomes (or results) of an educational programme are the graduates who should be competent and capable of performing safely, effectively and professionally in their practice setting and contributing to the delivery of health care. Additionally, academic institutions providing education to health care professionals must ensure that they are socially accountable and demonstrate how they contribute to addressing national needs and priorities and improving health care outcomes. The academic environment is becoming less traditional, more evidence-based, more connected with practice, and more open to new teaching methodologies, interprofessional education and international collaboration, while still retaining a strongly science-based curriculum and research orientation.

### **Who is behind this work? FIP Education Initiative and Quality Assurance Domain**

To promote and facilitate international dialogue and collaboration in the area of quality assurance of pharmacy education, the *International Forum for Quality Assurance of Pharmacy Education* was established in 2001 and was hosted by the International Pharmaceutical Federation (FIP). It acted primarily as a network of experts, innovators and other individuals interested in the quality assurance and quality advancement of pharmacy education at the institutional, national and global levels.

Further to the development of the FIP Education Initiative (FIPEd), the *International Forum for Quality Assurance of Pharmacy Education* has been integrated in FIPEd and Quality Assurance is one of the domains under the Education Development Team.

The objectives of the Quality Assurance Domain are:

- To promote excellence in education for the profession of pharmacy;
- To provide an international forum for information exchange, research, innovation, collaboration and cooperation in the area of quality assurance of pharmacy education;
- To facilitate and promote communication and collaboration between individuals, agencies, associations, higher education institutions, accreditation bodies and other stakeholders actively involved in, or interested in, quality assurance of pharmacy education, with a view to:
  - The establishment of systems of quality assurance in countries where no such formal systems exist;
  - The continuous quality improvement of existing systems of quality assurance.

Pharmacy practice, pharmacy education and quality assurance systems for education differ from country to country. While developments in practice, regulation and education are reducing this diversity, current differences are still significant. In many countries, quality assurance systems for pharmacy education are well developed; in other countries, they do not exist or are still emerging. Members of the Quality Assurance Domain believe that ideally countries should have their own national system of quality assurance and standards for pharmacy education. Such standards should reflect contemporary and emerging pharmacy practice and education, and meet the specific needs of the country. However, the *principles and core elements* for quality assurance of pharmacy education do not differ significantly - if at all - from country to country. Members of the Quality Assurance Domain felt that countries seeking to establish or improve their system of quality assurance would benefit from an internationally developed and adopted framework for quality assurance of pharmacy education.

### **Development of a global framework**

In 2007, the development of such a framework was one of the priorities of a partnership between FIP, the World Health Organization (WHO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO). To maximize the value and global applicability of the Framework, input was sought and received from individuals and organizations in as many countries as possible. As a result, the document has drawn from the experience and perspectives of several different systems of quality assurance in pharmacy education.

In developing the Framework, every effort was made to focus on common elements, and to avoid bias and/or the use of terminology, principles, and specifics that may not be universally applicable. In order to improve the readability

of the document and to avoid the repeated inclusion of multiple terms to cater for all possible systems, certain terminology has been adopted for use in the document. Such terminology should be interpreted broadly by users of the Framework; the context of use of selected terms is described in the Glossary or footnotes. Users of the Framework are requested to apply the principle behind the term even if different terminology or systems apply in their own situation.

### **Adoption, validation and revision of FIP's Global Quality Assurance Framework**

The first edition of the *Global Framework for Quality Assurance of Pharmacy Education* (hereinafter referred to as the "Framework") was adopted by FIP in September 2008<sup>[1]</sup>. In 2009-10, the Framework underwent a structured validation through a survey of selected individuals - from 24 countries - with appropriate expertise and experience in pharmacy education, practice, regulation and quality assurance/accreditation.

All elements of the Framework were found to be "valid" and were retained in this revision. An element was defined as "valid" if it met one of two possible conditions:

- The respondent's country had a comparable criterion, requirement or process
- The respondent's country did not have a comparable criterion, requirement or process, but such a criterion, requirement or process would be a quality improvement to the system in place.

Respondents could also rate an element as "not valid" or "not applicable" for their country.

Revision of the Framework was undertaken from 2012-14 and it was informed by comments received during the validation exercise and additional feedback from members of the Domain and other globally diverse stakeholders. The resulting document the 2<sup>nd</sup> Edition, published by FIP in 2014.

### **Core principles and elements of quality assurance**

The second edition of the Framework has added new principles and elements in its content and form, now considered essential for an effective and contemporary approach to quality assurance. The **Pillars of Quality** presented in the first Edition have been redesigned by adding **Context** and **Impact** as new pillars and indicators of quality. The original concept has changed from a somewhat linear structure to a more cyclical form, where over time the outcomes and impact of the educational enterprise create a new context, and are drivers of transformative and socially accountable change. The model is no longer static but intended to be more dynamic, bringing opportunities to drive changes at universities and national organizations to improve the quality of education. For each of the five "pillars", quality indicators are provided as examples of the expectation of the quality criteria. The indicators use the following scale: *Non Compliant; Major Improvement Required; Minor Improvement Required; Compliant*; and can be used for quality assurance and self-assessment.

Adding **Foundations of Science, Practice and Ethics** to the model, assures that education addresses all components of competency (knowledge, skills, attitudes and values); thereby articulating a comprehensive quality model for **competency-based education**. This new model has been presented to international audiences including educators, practitioners, students and international experts and it has been well received.

Edition 2 of the Framework primarily addresses "professional" (pre-service or entry-to-practice) education for pharmacists. It is recognized that the education of pharmacists around the world takes place in different academic settings but in this document it is largely assumed that such education would involve a degree programme at the post-secondary (higher education) level. The principles of quality assurance outlined in the Framework should, however, apply to all levels of formal education, and to the education and training of other members of the pharmacy workforce. In addition, many of the principles apply to continuing education and continuing professional development activities. A new FIPed Domain has been established to address Continuing Education (CE) and Continuing Professional Development (CPD) for pharmacists. Quality Assurance issues related to these important educational activities will be supported by both FIPed Domains, and FIPed proposes to develop new tools and resources related to Continuing Education and Continuing Professional Development in the future.

FIP believes that the Framework should continue to be a dynamic document that will evolve over time in line with the transformation of pharmacy education globally. FIPeD's Quality Assurance Domain can support and provide guidance on the use of the Framework; in this regard, additional "step-wise" tools and resources for use with the Framework will be developed. FIPeD welcomes collaborative projects including adoption, adaptation and improvement of the Framework. The submission of feedback on the application and usefulness of the Framework, as well as comments and suggestions for improvement, are encouraged and appreciated. Members of the Quality Assurance Domain meet regularly at FIP annual congresses, invited and coordinated by the FIPeD Quality Assurance Domain Lead and FIPeD Project Coordinator.

The contribution of numerous individuals, organizations and associations to the development and revision of the Framework is gratefully acknowledged. For a list of contributors to the revision and participants of the 2009-10 validation exercise, please refer to the *Acknowledgments*.



Michael J. Rouse  
Education Lead for the Quality Assurance Domain  
Education Development Team  
FIP Education Initiative (FIPeD)  
The International Pharmaceutical Federation  
September 2014

Please direct all correspondence to:  
The International Pharmaceutical Federation (FIP)  
Andries Bickerweg 5  
2517 JP The Hague  
The Netherlands  
Email: [education@fip.org](mailto:education@fip.org)  
.....

# Section A

## PRE-REQUISITES FOR QUALITY ASSURANCE IN PHARMACY EDUCATION

This section of the Framework describes the pre-requisites and foundational elements that need to be in place or agreed in order to design, develop and implement an optimal quality assurance system for pharmacy education. It discusses the key players (stakeholders) who have an interest in quality education, and how they should be involved. It explores different approaches to quality assurance and continuous quality improvement.

### 1. A Vision for Pharmacy Practice and Professional Education

#### 1.1. Identifying national, societal, and population needs

As professionals, pharmacists serve the needs of the society in which they practice, both at an individual patient and at the broader population level. Just as political, health care, and regulatory systems differ from country to country, so do health care needs and other priorities, including economic,

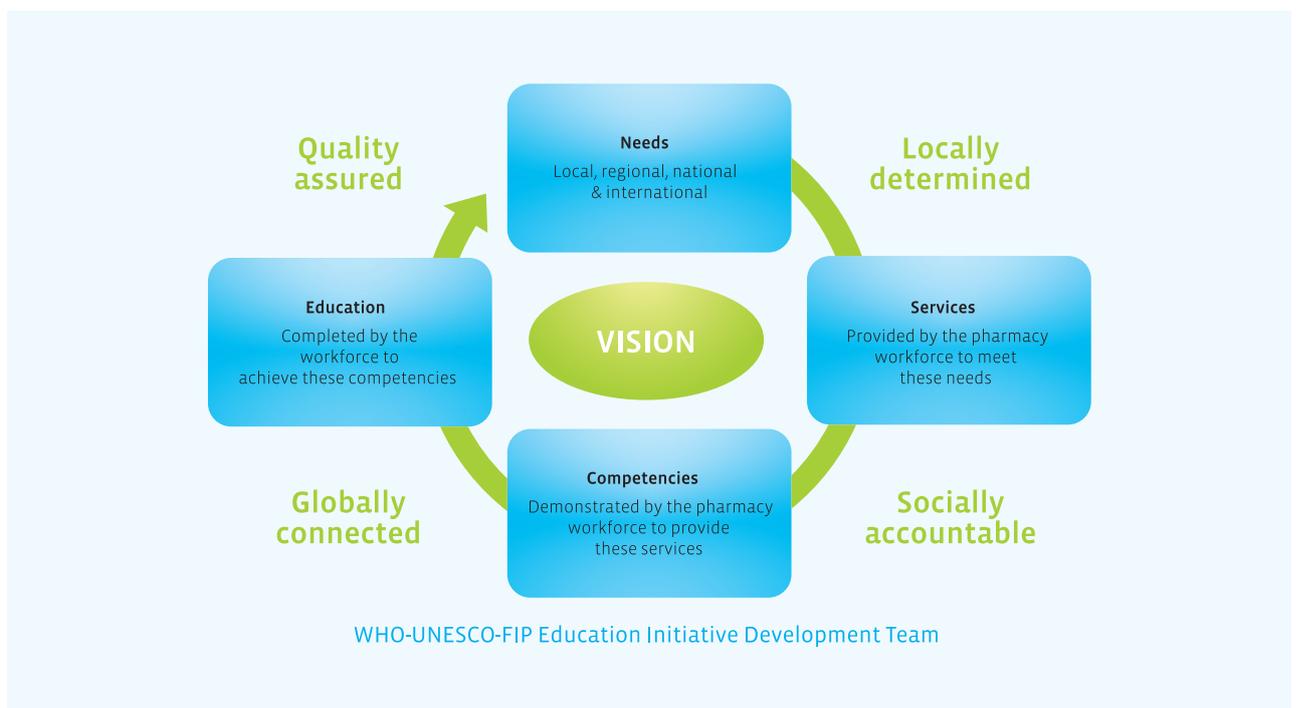
educational, cultural and social priorities differ. Several factors account for or contribute to this diversity.

The nature of national, societal and population needs, policies, and priorities will determine the services that must be provided by the pharmacy workforce to meet these needs.

In turn, these services will determine what competencies must be developed by members of the pharmacy workforce in order to deliver the services. Educational programmes must be designed and delivered (curricular content, teaching and learning methodologies, educational outcomes, etc.) to ensure that these competencies are achieved by all graduates.

This is the needs-based education model (Figure 1) embraced by FIPED's Global Quality Assurance Framework.

Figure 1: FIP Education Initiative Needs-Based Education Model.



## 1.2. Defining the pharmacist's role and contribution in health care

The pharmacy profession has a long and proud tradition, and pharmacists – playing many different roles - are valued, trusted, and respected members of their communities.

The role and contribution of pharmacists in the overall context of health care delivery is, however, changing dramatically on a global level. The changes can be summarised as pharmacists' focus on assuming a greater responsibility for the safe, effective and responsible use of medications by patients and populations, with the main goal of optimising therapeutic outcomes. Additionally, pharmacists are assuming key roles in health promotion, disease prevention and the management of systems and resources associated with health care delivery.

These developments, such as medication therapy management, evidence-based pharmacy, collaborative practice, independent prescribing, and rational and responsible use of medicines, require clinical and communication skills, decision-making and critical thinking, leadership, innovation and research abilities. They have been well described in FIP documents, such as the *Global Competency Framework* (2012)<sup>[4]</sup>, *Pharmacy Vision for 2020* (2011)<sup>[5]</sup>, *Good Pharmacy Practice Standards for Quality of Pharmacy Services* (1993, 1997, 2011)<sup>[6]</sup> and *Statement of Professional Standards on Pharmaceutical Care* (1998)<sup>[7]</sup>. On a global basis, countries are at many different stages in this transition, and even within countries there may be differences in the degree to which change has been effected. Cultural, historical, and political factors also impact the rate of these changes.

Changes in the education of pharmacists and regulation of pharmacy practice have paralleled these developments. As medication therapy has become more complex, more accessible, and used in more diverse patient populations (including a greater proportion of elderly patients), patient safety issues and accountability for outcomes of therapy have become a greater focus of attention.

Consumers and governments alike are demanding higher standards and seeking assurances of service quality and patient safety. As nations seek to improve standards for health care delivery, greater attention is being paid to the quantity and quality of health care practitioners, including the systems in place to assure the quality of education and training and the continuing competence of practitioners.

## 1.3. Developing a national, profession-wide vision for pharmacy practice and education

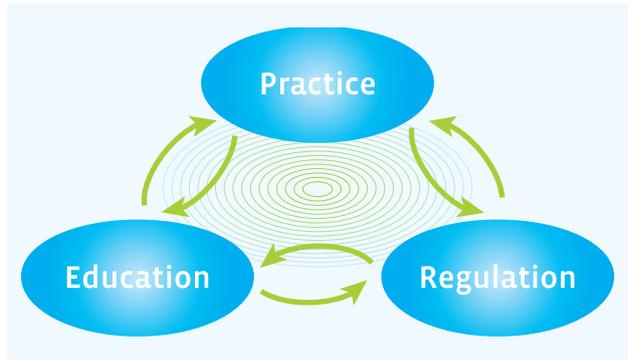
Recognising the many benefits that can accrue to society through the optimal use of pharmacists in health care delivery, many countries are undergoing (or planning to undergo) major transformation of pharmacy education. They are examining the roles and responsibilities that pharmacists can and should have in the delivery of health care services, and articulating the competencies that are required to effectively perform these roles and responsibilities. They are considering what levels, models, and duration of education and training are needed to ensure that pharmacists achieve these competencies before entering practice, and, importantly, maintain and enhance them throughout their professional careers.

Educators and policy makers are considering education from a standpoint of “*fitness for purpose*” for current needs and priorities in the health care system as well as for the desired and anticipated expanded roles and responsibilities in the future. In most cases, one country's model of education cannot be adopted by another country without appropriate adaptation to suit local needs and circumstances. Among other things, educational outcomes, competencies to be achieved, curricular content and structure will need to be modified.

It is essential that such strategic discussions do not take place in isolation. All stakeholders who have an interest and role to play should be involved so that a profession-wide consensus and vision can be successfully articulated, pursued, and achieved. Moreover, the discussions should be conducted in the context of national needs and priorities, and should take into account all required resources and the implications of the proposed changes. A clear, appropriate, realistic and achievable national vision for pharmacy education and practice should be developed through a collaborative effort. This vision and process should be integral to the development of a National Drug Policy.

Any professional arena involves a complex and dynamic interplay between practice, regulation, and education. As the regulatory sector exists to serve and protect patients and the public interest, societal needs and expectations are accounted for by “regulation” in this representation. At different times, it is likely that developments, innovations, or initiatives in one area will lead or drive change in others as depicted in *Figure 2*. For example, at times new regulation may be required to bring about needed changes in practice, while at other times beneficial innovations in practice may force changes to be made in regulation. Traditionally, education has been a strong driver of change in practice, but sometimes it may lag behind and be disconnected from the needs and realities of practice. Quality assurance systems that proactively engage with practice, education and regulation can also be drivers for quality advancement in education.

**Figure 2:** The dynamic relationship between practice, regulation and education.



At the same time, however, it is important to ensure that at no stage do any of the “gaps” depicted above get too wide, thereby creating a disconnect, which may lead to tensions, dissatisfaction or frustration. If, for example, pharmacy educators have a vision for pharmacy practice and education and implement a model that is not supported by practitioners and/or regulators, graduates may become disillusioned if the practice or regulatory environment does not allow them to practice in the manner conveyed by the academic programme.

#### 1.4. Involving stakeholders in assuring and advancing the quality of pharmacy education

Just as all stakeholders should be involved in the development and adoption of a profession-wide vision for pharmacy practice and education, so too should a broad spectrum of stakeholders be involved in the quality assurance of pharmacy

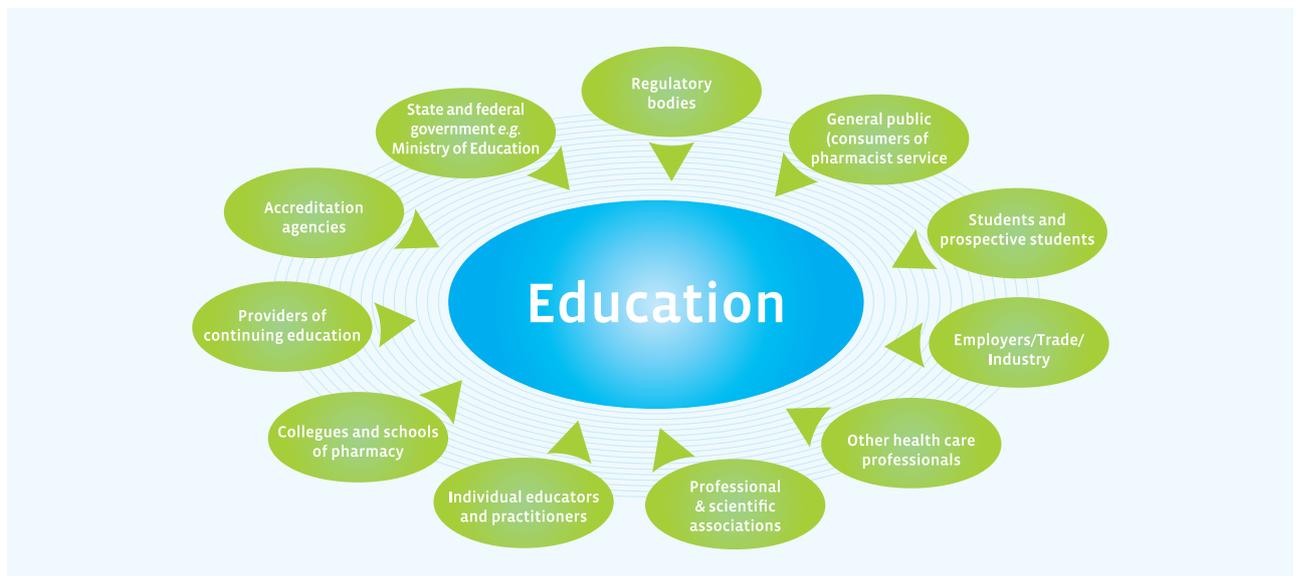
education. This key responsibility should not be the exclusive domain of any one sector.

Importantly, professional organizations need to take pride and ownership in the education of future practitioners and assume some of the responsibility for assuring quality outcomes. Within all quality assurance systems, strategies should be in place to ensure that opportunity exists for all key stakeholders to have input and, furthermore, that such input is meaningfully considered.

The major stakeholders are identified in *Figure 3*. From a political and regulatory standpoint, the government and, where applicable, other specific authorities responsible for the practice of pharmacy have the duty to protect the interests and wellbeing of the public. This requires them to assure that pharmacists receive appropriate education and training and are competent to deliver the range of services permitted in their defined scope of practice. Completion of an approved programme of study is a standard pre-requisite for licensure or registration as a pharmacist.

Invariably, as substantial (or sole) contributors to the financing of higher education, governments have another reason to desire quality outcomes from their “investment” in education for national development. In most countries, for these and other reasons, governments – either directly or indirectly through a statutory body – have traditionally taken on the responsibility for quality assurance of pharmacy education. Indications are that government-based systems remain the most pervasive, though the system may be exercised through reliance on private professional entities. There is, however, a growing trend towards non-governmental systems that are more closely aligned with the pharmacy profession.

**Figure 3:** Stakeholders in the quality assurance of pharmacy education.



The institutions that offer pharmacy education – universities, schools, or colleges (hereinafter generically referred to as “institutions” or “schools”) should play a key role in assuring the quality of education. Both students’ and academic staff members’ assessments, evaluation and improvement of the curriculum, implementing innovations, involving preceptors in the academic programme, development of students’ competency lists, and implementing contemporary teaching methodologies are some of the essential components of the quality assurance process. Students’ feedback can also influence quality, but cannot provide the full scope of required perspectives. The interests of members of the academic staff, other staff, and administrators in these schools, as well as other affiliated organizations and individuals should also be protected and advanced through an effective quality assurance system. This is particularly important when greater attention may be given to the interests of other programmes at an institution that are subject to external quality assurance or accreditation processes.

Schools benefit from a standardised, external evaluation of their programme and an objective, frank assessment of the adequacy of resources for each aspect of the educational mission, which lead to quality improvements. The profession as a whole, as it seeks to advance and better serve society and its members, relies heavily on the quality assurance system to maintain the integrity of the educational process and ensure the competence, professionalism, and leadership of future practitioners. For this reason, in many countries, professional bodies – either directly or through input to accreditation agencies – are now taking a more active role in the quality assurance of pharmacy education.

Ultimately, however, it is the general public and patients – as the final users of the wide ranging services provided directly and indirectly by pharmacists – that benefit most from the system that assures the quality of education and training provided to pharmacists. Increasingly, it is becoming policy and practice that lay members of the public (e.g., patients’ representatives) are involved in some way in the quality assurance of education and regulation of the practice of health care professionals.

## 1.5. Fostering commitment to change

The needed transformations in education and practice will not come at the desired rate without new approaches and commitment to change from all stakeholders, including educators, practitioners, regulators, policy makers and those responsible for assuring educational quality. Without changing the behaviour and performance of practitioners and having a positive impact on practice and patient outcomes, education activities do not fully achieve their desired objectives.

Behaviour-shaping processes in education today are considered to have the highest value for learning by increasing motivation, professionalism and advancing the reputation of the pharmacy profession in the health system. Building

the self-image of pharmacists, fostering commitment to change and ongoing personal development in students, and enhancing professional autonomy and socialization are essential ethical aspects of quality in education.

## 2. Understanding the Philosophy and Purpose of Quality Assurance in Pharmacy Education

### 2.1. Considering different models for quality assurance

Governments have traditionally been responsible for the quality assurance of education for health care professionals through a department or ministry (such as health or education) or a more focused agency of government established specifically for the purpose. Other models exist where quality

assurance falls under the responsibility of a national pharmacy organisation or institutions self-regulate. In some countries, such as, Australia, Canada, and the United States of America, more independent and autonomous agencies have been established, either in terms of a government mandate or in some other way overseen by and/or accountable to government. Such agencies maintain a large degree of independence and autonomy in decision-making and operations.

The latter model represents a growing trend, and would include agencies who classify their quality assurance system as one of accreditation. Some countries collaborate on a regional basis to quality assure pharmacy education using a common set of standards, policies and procedures. However the system is structured, the possibilities for “conflict of interest” should be removed or appropriately managed.

In some countries, for professional degree programmes such as pharmacy offered at institutions of higher education, quality assurance can occur at two levels – the institutional/ university level and the specific programme level. In the former, the agency evaluates all aspects of the institution, including all programmes or degrees offered. In the latter, the respective quality assurance body or agency (hereinafter referred to as the “agency”) only evaluates the professional degree programme and directly related aspects of the institution or school. This Framework is presented from the perspective of programme level quality assurance.

While it is acknowledged that many different systems for quality assurance exist around the world - likely each with its advantages and disadvantages - the general merits of one system over another are not discussed in this Framework. This is primarily because the principles and core elements of quality assurance that the Framework articulates can apply to any system of quality assurance.

## 2.2. Embracing the concepts and elements of quality assurance

Quality assurance might often be perceived simply as a system of external review by an entity not directly involved in the programme being evaluated; however, a comprehensive quality assurance system should incorporate many more elements and promote a specific culture within the institution whose programme is being evaluated. One of the key foundations of any quality assurance system is (collectively) the *indicators, standards or criteria* by which quality is defined. All quality assurance systems should be based on well-articulated standards that clearly state their purpose and expectation. Such standards should be:

- Aligned with the national context, i.e., developed through a collaborative and transparent process involving all key stakeholders;
- Transparent and user-friendly;
- Endorsed profession-wide;
- Evidence-based;
- Validated through reliable measures and outcomes;
- Publicly disclosed;
- Reviewed and updated periodically to ensure contemporary applicability.

National standards should ensure that core educational and other programmatic outcomes and impact (as defined by the profession) are achieved while still allowing for innovation and mission-related differences to exist between schools and programmes as show in *Figure 4*.

**Figure 4:** Quality assurance and quality advancement.



The objective of a quality assurance system for professional education is not to assure that all institutions or schools are identical or that they do things in exactly the same way; rather it is to assure that specific outcomes and impact on the profession are achieved and that core quality elements are established and maintained. Quality can be articulated in five

main domains - *Context, Structure, Process, Outcomes and Impact*, expanded on in more detail in **Section B**.

Also central to the quality assurance system and agency are rigorous and stringently applied policies and procedures that assure consistency, impartiality, fairness, and integrity of the evaluation and decision-making process. Such policies and procedures should also be developed through a transparent process (allowing and encouraging stakeholders' input as appropriate), validated, and made available publicly.

External evaluation should ideally incorporate a "peer review" process, involving individuals with qualifications, expertise, and experience commensurate with those being evaluated, as well as evaluators who bring other necessary perspectives and experience, such as pharmacy practice and regulation. If those participating in the evaluation are respected colleagues, the system is more likely to achieve credibility and a greater level of acceptance. Quality assurance should involve initial evaluation, with periodic but regularly scheduled follow-up evaluations. This is to ensure ongoing compliance with existing or revised standards or criteria, especially in view of the dynamic nature of professional education and other environmental changes. Typically, approval or a statement of compliance with standards is given for a defined or maximum period of time (a quality assurance "cycle" or "term"). If deficiencies or problems are identified, the standard (or maximum) term may be shortened. Furthermore, certain restrictive conditions may be imposed. Interim monitoring or reporting may be required, and timeframes may be set for remediation of deficiencies. Some quality assurance systems have annual audits, monitoring or reporting requirements. These make use of standardized data, indicators or benchmarks that can serve as early warning signals or highlight potential quality-related problem areas. Increasingly, quality assurance systems are incorporating a greater element of self-assessment, whereby institutions undertake a comprehensive, broad-based exercise in introspection to make their own assessment of compliance with the established standards or criteria. In this way, the institution is encouraged to identify areas in which it needs to improve and to develop and implement plans and strategies to rectify any deficiencies. This approach is also intended to promote a *culture of assessment* and continuous quality improvement (CQI) within the institution, such that - to a large extent - the institution assumes responsibility for its own, ongoing quality assurance and quality improvement. Ideally, the external quality assurance agency should be regarded as a partner, facilitator, consultant and collaborator in the process, rather than a "policeman" trying to catch an institution doing something wrong.

Finally, the policies and procedures of the quality assurance agency should also provide for an appeals process - through which the decisions or actions of the agency can be questioned or challenged if the institution feels aggrieved in any way - and ensure that the institution's right to "due process" is protected.

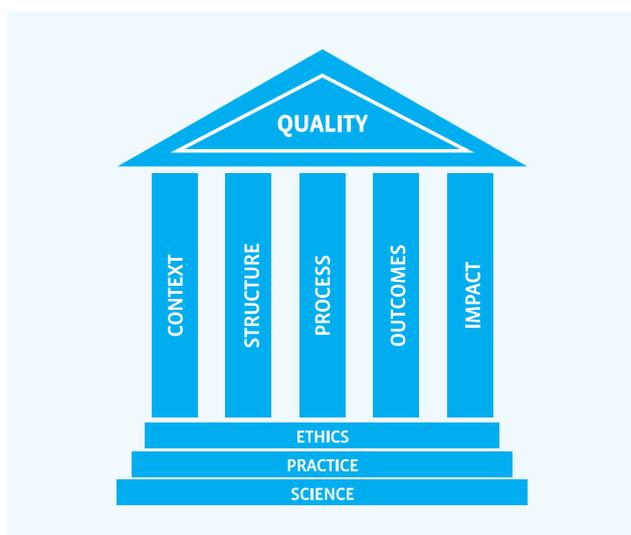
# Section B

## QUALITY CRITERIA AND QUALITY INDICATORS FOR PHARMACY EDUCATION

*This section of the Framework discusses in more detail the criteria (areas) that must be addressed to assure quality under the broad headings of context, structure, process, outcomes and impact of pharmacy education (five “pillars” of quality), and science, practice and ethics (three “foundations” of quality).*

Developed through open international consultations since 2001, the Quality Criteria and quality indicators (that follow each section) can provide practical guidance to facilitate the establishment of quality assurance systems and standards in countries where no such formal systems exist, or the improvement of existing systems. Quality indicators can be used on an individual, institutional, national, or regional level, helping both educators and students to evaluate the quality of educational programmes they are providing or attending. They can also serve as a foundation to develop quality assessment tools for accreditation activities, both in self-assessment and external evaluation activities. This structured and comprehensive model with its 8 elements of quality (Figure 5) can also serve as a starting point to plan and develop improvements in issues that were not determined to be adequate in quality assessment processes.

Figure 5: The Pillars and Foundations of Quality.



In addition to being supported by the five pillars (*Context, Structure, Process, Outcomes and Impact*), quality education has to be based on three important foundations, namely: *Science* (knowledge), *Practice* (skills and experience) and *Ethics* (attitudes and values). By using and integrating knowledge, experience and personal values, in accordance with professional roles and responsibilities, a pharmacist has the individual ability to make deliberate choices from a repertoire of behaviours for handling situations and tasks

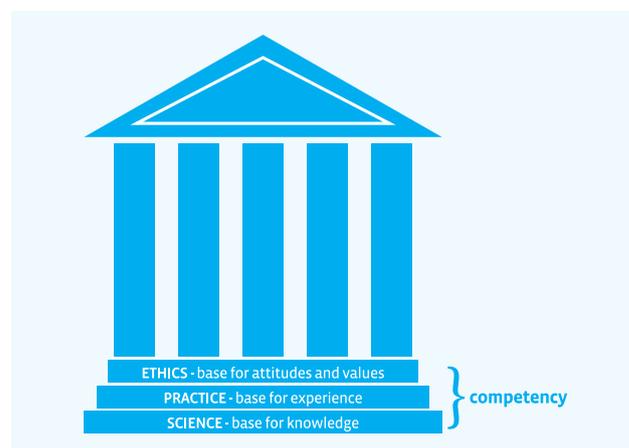
in specific contexts of professional pharmacy practice. This ability is defined as a competence<sup>[6]</sup>. Such competence is what should be developed by all graduates of a quality educational programme.

In recent years, FIP has focused particular attention on an initiative to foster and support the evaluation and development of competencies in pharmacy, and to develop educational models that would serve that purpose. FIP's Global Competency Framework (GbCF) for articulating and evaluating competencies has been finalised, and after testing by several countries, it has been adapted and adopted to become an official model for competencies in pharmacy<sup>[4]</sup>.

The Global Competency Framework describes 20 competencies in four areas (pharmaceutical care, public health, organization and management professional and personal), with numerous accompanying specific indicators (behavioural statements). In the standards established by the quality assurance agency, educational outcomes and competencies can be stated in a number of ways, either at a high level (e.g., a few broad competency areas, as above) or at a more detailed level specifying multiple, more specific competencies. In developing and adopting its own educational outcome and competency statements, the school must ensure that it addresses all the outcomes and competencies addressed in the standards.

As shown in Figure 6, educational activities, to be competency-based, must collectively address all competency areas (knowledge, experience/skills, attitudes and values).

Figure 6: Components of competency to be addressed in education.



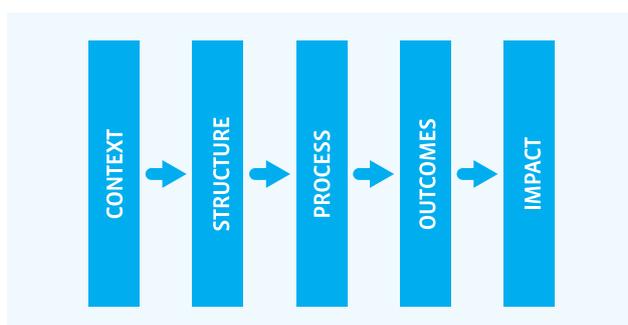
## 1. Considering and addressing the Context

Considering and addressing the *Context* for pharmacy education is the first step to achieving quality in pharmacy education.

*Context* is the environment (political, legal, social, economic, cultural, etc.) in which education is provided. It exists at two main levels: the *external* environment (the local community and nation in which the institution operates, and beyond that the global arena) and the *internal* environment (within the university and school of pharmacy). The external environment is, in the main, beyond the control of the university and school; whereas the internal environment is largely created by the university and school. The external environment should have a strong influence on the university and school and their respective missions and goals, especially if the university and school are socially accountable.

The internal environment or “culture” should, in turn, reflect and be an outworking of the mission and goals. By appropriately taking into consideration the *context* for the provision of education, thereby identifying and adopting the right *structure*, *process*, and *outcomes*, an institution can have the desired *impact* and be socially accountable (*Figure 7*).

Figure 7. The relationship between the Five Pillars of Quality.



The World Health Organization (1995) defined the social accountability of medical schools as the obligation to direct their education, research and service activities towards addressing the priority health concerns of the community, region, and/or nation they have a mandate to serve<sup>9</sup>. The priority health concerns are to be identified jointly by all stakeholders as described above. This important task can be achieved only in a dynamic continuum, including participatory leadership and change management.

By failing to recognize and address *context*, all other “pillars of quality” can be compromised, as process, structure, outcomes, and impact will not optimally address institutional and national needs and requirements, especially improvements in pharmacy practice.

Whether schools are public or private, indicators of quality associated with context include:

- The extent to which the school’s mission, goals, values and “culture” are influenced by and seek to address the external environment;
- What leadership role the school has in shaping and developing the national vision for pharmacy education and practice; and
- Evidence that the school is living out (achieving) its mission.

### 1.1. Establishing the mission, goals and values of the school

The school of pharmacy should have a statement that expresses its mission, goals, and values in the areas of teaching, research and scholarly activity, service to the community<sup>b</sup>, contribution to pharmacy practice, and advancement of the profession. The mission and goals should reflect the national environment and be aligned with the profession-wide vision for pharmacy practice and education to ensure that graduates are appropriately educated and trained to deliver pharmacy services that meet current and future societal needs and expectations. The mission and goals should reflect a commitment to continuous quality improvement and should be specific, measurable and realistic, so that progress toward their achievement can be evaluated. The mission, goals, and values should be developed with input from key stakeholders (internal and external, public and private).

The school of pharmacy (and the university in which it is located, if applicable) may have some unique aspects to its mission and objectives, but these should not otherwise compromise the achievement of required programmatic outcomes and compliance with standards. Progress towards achievement of the mission and goals should be measured and evaluated on a regular basis. Follow-up actions should be initiated as required, assuring innovations and changes, maintaining social accountability, and respecting the context in which the school operates.

The school should strive to provide an environment and “culture” that promotes professional and ethical behaviour, and harmonious relationships among administrators, academic and other staff, preceptors, students, and other stakeholders. Administrators, academic and other staff, and preceptors should be committed to developing professionalism and fostering leadership in students and to serving as mentors and positive role models for students.

The school should support the participation of administrators, academic staff, preceptors, and students in local, national and international pharmacy, scientific, and other professional organisations, to keep them informed about and engaged in the national and international “context” and to lead and support innovation and change as appropriate.

<sup>b</sup> Services provided directly or indirectly by the institution, usually aimed at promoting health improvements within the community, or other related community engagement and outreach projects.

The school should provide and/or support the delivery of educational programmes to its graduates and other pharmacy professionals in the form of CE and CPD activities. Post-graduate courses, training, focus groups and specializations are required to maintain the mission of the school to influence pharmacy practice. Educational models for practitioners should drive innovations and evidence-based practice as an important impact on society.

The school's mission and goals should include a commitment to the generation, dissemination, and application of new knowledge through research, publication, and other scholarly activity of its academic staff and students.

The importance of research and publication should be promoted among the academic staff and students. The school should implement strategies and programmes to broaden the scientific and professional horizons of students in areas such as scientific inquiry, scholarly concern for the profession, the relevance and methodology of research, and postgraduate education and training.

### 1.2. Ensuring Social Accountability by the school

The school, with the support of the university, if applicable, should be responsive to the health care related needs and priorities of its community and the nation and should strive to address national and community needs through its educational, research and service activities.

### 1.3. Quality Indicators related to Context

	Indicator	Non Compliant	Major Improvement Required	Minor Improvement Required	Compliant
1	The mission and goals of the school reflect and consider the national environment, needs, and priorities.				
2	The mission and goals of the school are aligned with the profession-wide vision for pharmacy practice and education.				
3	The mission and goals of the school are aligned with the mission and goals of the university (if applicable).				
4	The mission, goals, and values of the school are developed with input from key stakeholders (internal and external).				
5	The educational programme is designed and delivered based on national and professional needs and priorities.				
6	Changes in science, practice and regulation influence the content, design and delivery of the programme.				
7	Curricular changes are visible, consensus based, and aligned with changes impacting the pharmacy profession.				
8	The educational programme provides national and international perspectives on the topics being taught.				
9	The school implements strategies and programmes to broaden the scientific and professional horizons of students.				
10	The school provides and/or supports the delivery of educational programmes to its graduates and other pharmacy professionals in the form of CE and CPD activities to inform and influence pharmacy practice.				
11	The school's commitment to the generation, dissemination, and application of new knowledge is evident and demonstrated by productive research, publications, and other scholarly activities.				

	Indicator	Non Compliant	Major Improvement Required	Minor Improvement Required	Compliant
12	The school embraces the obligation to be socially accountable and strives to address national and community needs through its educational, research and service activities.				
13	The school provides and supports projects and activities that bring about positive changes in society.				

## 2. Establishing the right Structure

Establishing the right *Structure* is essential to the development, delivery, sustainability, growth and quality improvement of an educational programme.

*Structure* collectively represents what exists at the school and university to support and facilitate the organisation and delivery of the educational programme and other mission-related activities, such as research, in the appropriate context. In some areas, *structure* and *process* (Section 3) are difficult to separate.

### 2.1. Achieving effective organisation, administration, leadership, and communication

#### 2.1.1. Role and mission of the Director of the school or professional degree programme

Working with other university administrators, the Director of the school or programme (such as the Dean or equivalent) should provide strong and visible leadership to the school of pharmacy and assume primary responsibility for ensuring the quality of the professional degree programme. The Director should have appropriate qualifications and experience to provide leadership in all mission-related areas, ensure effective communication with all stakeholders, and secure adequate resources to achieve the goals and objectives of the school. The Director should be able to unite, advance and inspire administrators, academic and other staff, preceptors, and students toward achievement of the mission and goals. The leadership and effectiveness of the Director should be evaluated on a regular basis using a broad-based approach within the school.

#### 2.1.2. Organizational structure

The school should be organized, managed, and staffed to facilitate the accomplishment of its mission and

goals. Within university policies, members of the school administration should have defined lines of authority and responsibility, foster organisational unit development and collegiality, and appropriately allocate resources. The efficiency and effectiveness of the organisational structure, management, operations, and academic staff governance should be evaluated to ensure that they properly support the achievement of the mission and goals.

If the school organizes its academic staff into sub-units, such as departments or divisions, sub-unit goals and objectives should be established that align with the mission and goals of the school. The effectiveness of each organizational unit should be evaluated on the basis of its goals and objectives and its contribution to the professional programme and overall mission. The periodic review of the administrative leaders of the school should be transparent and include input from other administrators, academic and other staff, students, and preceptors.

With broad-based input from appropriate stakeholders, the school should develop governance and operational documents such as bylaws, policies and procedures, standard operating procedures, and handbooks/manuals for academic staff and students. Policies and procedures should address issues such as conflicts of interest, complaints and rights to due process, and recruitment, retention, appraisal and promotion of staff.

#### 2.1.3. Committees

Committees and meetings of the academic staff should be part of the system of governance of the school. Committees should be established to identify and address key components of the mission and goals. Examples could include curriculum committee, assessment committee, strategic planning committee, research committee, and admissions committee. Where appropriate, committees should include full-time and part-time academic and other staff, students, graduates, preceptors, and pharmacy practitioners.

## 2.2. Developing collaborative relationships

### 2.2.1. Collaboration within the University

Where the school is part of a university (or other academic structure), it is essential that cordial and collaborative working relationships exist between the school and university administration, and between the school and other schools, colleges or departments of the university. This is primarily to ensure that the school advances its mission and goals and receives adequate financial, physical (teaching and research), academic and other staff, student, practice site, preceptor, library, technology, and administrative resources and services. Within the policies and procedures of the university, the school should have a large measure of autonomy regarding its own policies, procedures and operations to ensure optimal delivery of the professional degree programme in alignment with societal and professional needs. Areas in which the school should have a large measure of autonomy include: programmatic evaluation; development and delivery of the curriculum; development of school policies and procedures; student enrolment (quantitative and qualitative aspects); student admission and progression; and recruitment, retention, development, appraisal, promotion (and tenure, if applicable) of academic and other staff. All those activities are dynamic components and should be re-assessed periodically to assure the optimal environment for teaching and learning.

### 2.2.2. Other collaborative relationships

The school - with the full support of the university, if applicable - should develop collaborative relationships and partnerships with stakeholders outside the university to support and advance its mission and goals. Examples of areas for collaboration could include: academic; research and other scholarly activities; pharmacy practice; institutional development and philanthropy; and community service. Stakeholders include employers, regulatory agencies, professional bodies, scientific societies, research institutions, community and patient groups and other institutions. There should be active relationships between the school and the health and science related sectors of society and government to follow organizational, strategic and political changes in the health care system and to stay connected with the pharmacy profession.

Specific, measurable, attainable, relevant and time-based (SMART) objectives should be developed for all collaborative relationships. The outcomes, impact and ongoing value of the collaboration to the school and programme should be monitored and, on a regular basis, evaluated and recognized.

## 2.3. Designing the Curriculum

The school should clearly identify and publish the educational outcomes/competencies that graduates must achieve to address current and future national health-related needs using a needs-based educational model. The curriculum for the professional degree programme should support the preparation of graduates with the competencies needed to enter pharmacy practice in any setting, to be leaders and agents of change, and to contribute to the profession of pharmacy throughout their career. The curriculum should provide a thorough foundation (knowledge base) in the biomedical, pharmaceutical, social, behavioural, administrative, and clinical sciences, and a range of pharmacy practice experiences<sup>c,d</sup> that integrate, apply, reinforce, and advance the knowledge, skills, attitudes, behaviours and values developed through the other components of the curriculum.

The curriculum should develop quantitative reasoning skills and the ability in graduates to integrate and apply learning to the present and future practice of pharmacy. Graduates should have developed the skills and attitudes to self-direct their lifelong learning and professional development. The professional degree programme should satisfy the educational requirements for licensure (or registration) or, where it is required, for examination for licensure as a pharmacist, and meet the requirements of the university and applicable education authorities for the degree (or other credential) awarded.

The structure and duration of the programme, including the number of academic credits awarded and the mix of required and elective courses should be appropriate to the educational outcomes and competencies to be achieved by graduates.

Practice experiences should be undertaken at approved practice sites under the supervision of appropriately qualified, experienced and trained preceptors, who serve as practitioner-educators. The majority of preceptors should be trained pharmacists, and the majority of students' time in experiential education should be spent with trained pharmacists. Other health care professionals can also serve as preceptors, provided that the competencies developed by students during the practice experience are appropriate to pharmacists. Criteria for the selection, review and retention of preceptors and practice sites should be established and implemented in collaboration with the regulators of pharmacy practice. The competency-based objectives for each pharmacy practice experience and the responsibilities of the student, preceptor, and practice site should be clearly defined and mutually agreed.

<sup>c</sup> Practice experiences (also referred to as practice-based learning or experiential education) in the health care professions have been shown to promote competence by teaching students how to integrate and apply knowledge in practice settings, learn from positive role models and experience interprofessional team approaches to the provision of health care services. As a result of such experiences, students have demonstrated an increase in empathy towards people with illnesses, have greater self-confidence and professional identity, and have learned effectively from the knowledge, attitudes, values, behaviors, and judgments of experienced practitioners<sup>[5]</sup>.

<sup>d</sup> **Note:** Models for experiential education differ around the world. In some countries, all practice experience occurs after graduation; in some countries all practice experience occurs in the curriculum of the school of pharmacy; in some countries, there are practice experiences in the curriculum and after graduation. There is a growing trend towards inclusion of practice experiences in the curriculum, which come under the responsibility of the school of pharmacy.

The relationship between the school and its preceptors should be clearly defined and articulated, e.g., through a written agreement and/or appointment as a member of the academic staff of the school.

At a level appropriate to the education and experience of the student and in accordance with pharmacy practice regulations, practice experiences should include direct interaction with diverse patient populations in a variety of practice settings and provide opportunities for communication and collaboration with other health care professionals.

## 2.4. Securing resources

### 2.4.1. Academic staff, other staff and preceptors

The school should have a sufficient number of full-time, part-time, and volunteer academic, other staff and preceptors to effectively deliver and evaluate the professional degree programme, while providing adequate time for staff development, research and other scholarly activities, student advising, service, and pharmacy practice (for applicable academic staff). The academic staff should have appropriate qualifications and experience, and include members who trained and work/worked as pharmacists. Adequate support and technical staff resources should be provided to allow effective and efficient operation of the school. Adequate ongoing strength of the academic and other staff should be ensured through capacity planning and recruitment and retention strategies. Recruitment policies and procedures should be ethical and transparent. Schools are encouraged to refer to and follow the WHO Global Code of Practice on the International Recruitment of Health Personnel.<sup>e</sup>

Members of the academic and other staff, individually and collectively, should be committed to the school's mission and goals, and respect their colleagues and students. Members of the academic staff should possess the required professional and academic expertise, have contemporary knowledge and abilities in current educational philosophy and techniques, and be committed to the advancement of the pharmacy profession and the pursuit of research and other scholarly activities. The school should ensure that newly appointed members of staff are oriented to the school and programme, including orientation for new academic staff to the curricular structure and philosophy. The school should foster and support the professional development of its academic and other staff, and preceptors, commensurate with their responsibilities in the programme. The school should ensure that policies and procedures for academic staff recruitment and retention, promotion and tenure (if applicable) are

established and applied in a consistent manner.

The school should ensure that the composition of the academic staff, including any contributions from other relationships (internal and external to the school or institution) encompasses the relevant disciplines within the biomedical, pharmaceutical, social/behavioural/administrative, and clinical pharmacy sciences to meet the education and research needs as defined by the mission of the school. Members of the academic staff, regardless of their discipline, should have or develop a conceptual understanding of current and proposed future pharmacy practice.

Members of the academic staff should have the capability and continued commitment to be effective teachers. Effective teaching requires knowledge of the discipline, effective communication skills, skills to assess learning, and an understanding of pedagogy, including construction and delivery of the curriculum. Members of the academic staff should be trained to use educational technologies and techniques that support various modes of educational delivery.

Academic staff should generate and disseminate knowledge through scholarship. Scholarship, including the scholarship of teaching, should be evident and demonstrated by productive research and other scholarly activities, such as contributions to the scientific, professional, and educational literature; and publication of books, chapters, commentaries and review articles. The school should foster an environment that encourages contributions by the academic staff to the development and transmission of knowledge and should contribute to the advancement of knowledge and to the intellectual growth of students through scholarship. Academic staff should be encouraged and supported to be actively involved in the governance of the school and associated academic institutions (e.g., through involvement on and leadership of committees), in professional and scientific societies, and in community service.

The school should identify pharmacist preceptors who will be positive role models for students; who practice ethically and with compassion for patients; accept personal responsibility for patient's health outcomes; have professional training, experience, and competence commensurate with their position; have a desire to educate others; and have an aptitude to facilitate learning and evaluate the achievement of required competencies by students.

### 2.4.2. Financial resources<sup>f</sup>

With the support of the university, and in alignment with university and/or national financial policies for higher education, the school should develop and maintain a broad base of financial support to ensure that it has the financial

<sup>e</sup> Available at: [http://www.who.int/hrh/migration/code/WHO\\_global\\_code\\_of\\_practice\\_EN.pdf](http://www.who.int/hrh/migration/code/WHO_global_code_of_practice_EN.pdf)

<sup>f</sup> **Note:** Funding models for higher education differ from country to country, and in many countries are changing. The principles outlined in this section, therefore, may not apply in their entirety.

---

resources necessary to provide a stable environment in which the school and programme can develop and accomplish its mission and goals. Within the policies of the university, the school should have a measure of autonomy in its use and allocation of financial resources, and it should operate with a budget that is planned, developed, and managed in accordance with sound and accepted management practices. Where applicable, the university administrators responsible for the pharmacy programme should have a clear understanding of the resource needs of the professional degree programme, such as the need to support scholarship and research, pharmacy practice, technology enabled instruction and the requirements of the library, educational resources and experiential education.

#### 2.4.3. Physical facilities

The school should have access to adequate and appropriate physical facilities to achieve its mission and goals. The physical facilities should meet legal standards; be safe, well maintained, and adequately equipped; provide a desirable, comfortable, and safe environment for teaching, learning, and research, and facilitate interaction among administration, academic and other staff, and students. Facilities should include offices, lecture rooms, small classrooms, facilities for individual and small group study by students, student activity areas, simulated pharmacy practice settings (e.g., community pharmacy, hospital pharmacy, hospital patient unit) and equipment, information and communication technologies (with appropriate data security and recovery systems), and other equipment and instrumentation to support administration, teaching and learning, research and other scholarly activities.

Simulated practice settings should be used to develop communication and counselling skills and undertake performance assessments. Activities in the simulated pharmacy practice settings should be supervised by preceptors, teacher-practitioners, or academic staff with appropriate pharmacy practice experience.

Equipment should be up-to-date, well maintained and available for all students. For schools that use animals in their professional course work or research, proper and adequate animal facilities should be maintained in accordance with legal requirements and/or acceptable standards for animal facilities.

#### 2.4.4. Facilities for pharmacy practice experiences

To support the pharmacy practice experiences in the curriculum and to collaboratively advance the patient care services of pharmacy practice experience sites, the school should establish and implement criteria for the selection of an adequate number and mix of practice facilities. The respective responsibilities, commitments, and expectations of the school and the practice site regarding the education and evaluation

of students should be agreed and, ideally, formalized in a written agreement or contract. Such an agreement should also address student-related matters such as health and safety issues, professional conduct expectations, and liabilities. The management and professional staff at practice sites should be committed to and supportive of the education of pharmacy students. The sites should have access to learning and information resources and a practice environment that promotes and supports pharmacist and student interactions with patients and other health care professionals. Regular review of these sites should occur as condition and employees may change over time.

#### 2.4.5. Library and learning/educational resources

The school should ensure access for all academic staff, preceptors, and students to a library and other learning/educational resources, including electronic and web-based resources, which are sufficient to support the professional degree programme and to provide for research and other scholarly activities in accordance with the school's mission and goals. Resources should be up-to-date and evidence-based. The school should fully incorporate and use these resources in the teaching and learning processes. In this regard, the school should provide organized programmes to teach academic staff, preceptors, and students the effective and efficient use of the library and other learning/educational resources. To foster improvement, student, preceptor, and academic staff members' opinions should be sought and evaluated regarding the adequacy of and access to library and learning/educational resources.

## 2.5. Quality Indicators related to *Structure*

	Indicator	Non Compliant	Major Improvement Required	Minor Improvement Required	Compliant
14	The Director of the school has appropriate qualifications and experience in pharmacy education to provide strong and visible leadership and ensure the quality of the professional degree programme.				
15	Members of the school administration have defined lines of authority and responsibility.				
16	Members of the school administration foster organizational unit development and collegiality, and appropriately allocate resources.				
17	Time, facilities and resources are well managed.				
18	Committees are established to identify and address key components of the mission and goals.				
19	The school develops collaborative relationships and partnerships with stakeholders (internal and external).				
20	The school evaluates the outcomes and impact of collaborative relationships and partnerships.				
21	Learning objectives of courses are appropriate to achieve the desired competencies.				
22	Curricular content is well aligned with the official (legal) scope of practice of pharmacists.				
23	The curriculum provides a thorough foundation (knowledge base) in the biomedical, pharmaceutical, social, behavioural, administrative, and clinical sciences.				
24	Educational activities are based on science, practice and ethics to address all competency areas (knowledge, skills, attitudes, values).				
25	The school has a sufficient number of qualified full-time academic (including pharmacy trained) and other staff to effectively deliver and evaluate the professional degree programme.				
26	The school identifies trained pharmacist preceptors who have the expertise, experience and commitment to facilitate learning and evaluate the achievement of required competencies by students.				
27	The school has established and implemented criteria for the selection of an adequate number and mix of pharmacy practice facilities and sites for students' experiential education.				

	Indicator	Non Compliant	Major Improvement Required	Minor Improvement Required	Compliant
28	The physical facilities are safe, well maintained, and adequately equipped for teaching, learning and research.				
29	The school has a broad base of financial support to provide a stable environment for the delivery and ongoing development and growth of the programme.				
30	The school ensures access for all academic staff, preceptors, and students to a comprehensive library and other learning/educational resources, including electronic and web-based resources.				
31	The school's physical facilities include simulated pharmacy practice settings where the school organizes active learning and performance assessment supervised by preceptors and/or academic staff with appropriate pharmacy practice experience.				

### 3. Employing the best *Process*

Employing the best *process* is essential for the efficient and sustained operation, management, evaluation and continuous development of the school, its education programme and other mission-related activities. It ensures that the needed resources are secured and maintained, and that students and staff are supported and treated fairly.

*Process* collectively refers to the activities, policies and procedures of the school and university to support and facilitate the organization and delivery of the educational programme and other mission-related activities, such as research.

#### 3.1. Strategic planning

The school should develop, implement, and regularly revise a strategic plan to facilitate the advancement and achievement of its mission and goals. The strategic plan should be developed through an inclusive process that seeks input and review from administrators, academic and other staff, preceptors, students, graduates, and other stakeholders as needed. The plan should have the support of the university administration, where applicable.

To provide the appropriate context, strategic planning should be based on an examination of the current environment (external and internal) and projected societal, political, legal,

economic, professional, and programmatic factors; it should assess strengths, weaknesses, opportunities, and threats relevant to the school (SWOT analysis), and include a review of the school's mission statement, goals, and values.

The plan should articulate measurable outcomes and the processes to assess them; establish achievable timelines; identify the resources that need to be sourced and allocated; designate responsibilities to the appropriate person or group; and establish mechanisms for ongoing monitoring and reporting of progress.

#### 3.2. Evaluation and assessment

The school should establish and implement an evaluation plan or ongoing comprehensive system of evaluation that assesses achievement of all mission-related goals and objectives. The evaluation plan or system should describe:

- The process and outcome assessment indicators that will be measured and evaluated, and with what frequency;
- The individual or group responsible for data collection, analysis, and dissemination;
- The person(s) that will be responsible to receive and be authorized to act on the findings;
- The manner by which resultant changes (e.g., revisions in the curriculum or modifications of policies and procedures) will be implemented, evaluated, documented, and communicated.

The school should develop and undertake assessment activities to collect data regarding the attainment of desired educational outcomes and competencies by students. The assessment activities should employ a variety of valid and reliable measures systematically and sequentially throughout the professional degree programme. The assessments employed to evaluate student learning should include defined formative and summative measures. The school should use the results obtained from analysis and interpretation of assessment data to improve student learning and the achievement of the professional competencies.

The school should systematically evaluate and validate its curricular structure, content, organization, teaching and learning methodologies, and outcomes. The school should use the results of such evaluation and data from assessment of student learning for continuous improvement of the curriculum and its delivery.

The schools should evaluate the extent to which the desired outcomes of research and other scholarly activities, service, and pharmacy practice programmes are being achieved.

Assessment and evaluation activities should involve a broad range of stakeholders – both internal and external to the school – such as academic staff, preceptors, students, graduates, regulators, employers, and consumers.

### 3.3. Enrolment management

The number of students enrolled in the programme should be managed in alignment with local and national needs, available physical, financial, academic staff, other staff, practice site, preceptor, student services and other administrative resources. The admissions and enrolment processes should be transparent, well organized and timely.

### 3.4. Academic policies and procedures

The school should produce and make available to students and prospective students criteria, policies, and procedures for admission to and progression in the professional degree programme. Admission materials should clearly state the pre-requisites for admission to the programme (such as prior education, training or experience, knowledge, skills, or attitudes), academic expectations for the programme, and professional standards for graduation. The school should have the final responsibility for selection and enrolment of students (quantitatively and qualitatively).

Where permitted by university and school policies, the school should produce and make available to students and prospective students transfer credit and course-waiver policies, based on rational procedures and defensible

assessments. The school should produce and make available to students and prospective students criteria, policies, and procedures for academic progression, academic probation, remediation, missed course work or credit, dismissal, re-admission, rights to due process, and appeal mechanisms.

The school should have a system for monitoring student performance (based on formative assessments of learning outcomes) that provides for the early detection of academic difficulty. The school should provide student services, such as individual tutorial support, advising by academic staff, and remediation programmes for students experiencing academic difficulty.

As a component of its evaluation system, the school should regularly assess the criteria, policies, and procedures for admission and progression to ensure the selection of students who both represent the diversity in society and have the greatest potential for academic success in the professional degree programme, and the ability to achieve the professional competencies and enter practice in a variety of settings.

### 3.5. Student services

Within its organizational structure, the school (or university) should have a person(s) responsible for the oversight and coordination of student services. Responsibilities could include:

- Student recruitment
- Student orientation
- Provision of programme information
- Financial aid counselling (where applicable)
- Academic and career counselling
- Access to health care services

The school should have an ordered, accurate, and secure system of student records.

The school should produce and make available to students and prospective students a complete and accurate description of the professional degree programme, including any disclosures required by the agency responsible for the quality assurance of the programme.

### 3.6. Student representation and input

The school should consider student perspectives and include student representation, where appropriate, on committees, in policy-development bodies, and in assessment and evaluation activities.

The school should have a student representation/governance structure as well as suitable committees (for example, a student/academic staff relations committee) to develop student leadership and professionalism, to ensure a forum for

student dialogue, and to ensure adequate communication of student opinions and perspectives.

Instruments and techniques, such as course evaluations, focus groups, meetings with the programme Director or other administrative leaders, and exit interviews should be systematically employed to obtain student perspectives on academic staff, curriculum, student services, and other aspects of the professional degree programme. The assessment data so obtained should be systematically analysed, interpreted, and used to improve all aspects of the programme. The school should share with students the aggregate results and outcomes of their participation in programme evaluation and improvement.

### 3.7. Curricular development and improvement

The school's academic staff should collectively be responsible for the development, organization, delivery, review, and improvement of the curriculum. The curriculum must define the expected educational outcomes and competencies (see Paragraph 4.1) and be developed with attention to sequencing, reinforcement, integration and application of content, cognitive and behavioural learning, and the selection of appropriate teaching and learning methods and assessments. Instruction should be coordinated across school organizational/departmental lines and academic staff disciplines to ensure appropriate coverage of all curricular areas and avoid unnecessary redundancy and overlap.

The curriculum should include didactic course work, opportunities for small group work to foster problem-based learning, laboratories, practice simulations, and supervised educational experiences in pharmacy practice settings. All courses and elements of the curriculum should be "mapped" (cross-referenced) to the expected competencies and educational outcomes.

The curriculum should incorporate both required and elective<sup>§</sup> courses and pharmacy practice experiences. The standard should specify the minimum number of academic years/semesters, as well as hours or credits for the professional degree programme. Ongoing development, review and continuous improvement of the curriculum should be guided by assessment data and be responsive to the changing state of knowledge in health care, new technologies, and the needs and demands emerging from health systems, including consumers' expectations. Curricular revision (in particular the addition of new content without associated increase in curricular length and/or removal of redundant content) needs to ensure the overall integrity of the curriculum. Curricular overload, dilution of focus and insufficient depth of coverage for essential components of the curriculum should be avoided.

### 3.8. Teaching and learning methodologies

Different educational methodologies are required to support the achievement of the different competencies (knowledge, skills, attitudes, behaviours, and values) required for pharmacy practice. Throughout the curriculum, the school should use and integrate teaching and learning methods that have been shown (through curricular assessments and other studies) to produce graduates who become competent pharmacists. Instructors should employ active learning strategies and encourage students to ask questions wherever possible. Students should be encouraged and assisted to develop the skills and attitudes required to self-direct and assume responsibility for their own learning, and to participate in the education of others.

Overall, teaching and learning methods should:

- Support the achievement of the stated outcomes and competencies;
- Foster the development and maturation of critical thinking and problem-solving skills;
- Cater for different learning styles and meet the diverse learning needs of students;
- Enable students to transition from dependent to active, self-directed, lifelong learners;
- Strive to use new interactive teaching technologies and tools;
- Encourage and help students to develop the skills to use evolving technologies and educational resources.

Ideally, the school should have access to educational experts from the institution or from other institutions for staff development in pedagogy. Where applicable, schools should have a policy on the use of external educational expertise to develop teaching and learning methods.

### 3.9. Appraisal and development of academic staff, other staff and preceptors

The school should have or provide support for an effective continuing professional development programme for full-time, part-time, and voluntary academic staff, preceptors and staff consistent with their responsibilities in the professional degree programme. The school should appraise the performance of academic and other staff and preceptors on a regular basis. Criteria for performance appraisal should be commensurate with responsibilities in the professional degree programme.

The appraisal process for academic and other staff should be annual, involve self-assessment, and include appropriate input from peers, supervisors, and students.

<sup>§</sup> Elective courses or experiences are those that may be selected by the student from a range of (non-required) options offered by the school

### 3.10. Quality Indicators related to *Process*

	Indicator	Non Compliant	Major Improvement Required	Minor Improvement Required	Compliant
32	The strategic plan is developed based on an examination of the current environment, assessing strengths, weaknesses, opportunities, and threats relevant to the school.				
33	The strategic plan is developed and adopted with input from key stakeholders (internal and external).				
34	Enrolment of students is transparent and well organized.				
35	Enrolment of students is aligned with the resources of the school and university.				
36	Enrolment of students is aligned with national needs.				
37	Academic policies and procedures are defined and available for all students and prospective students.				
38	Comprehensive student services are available to all students, assuring individual attention, guidance and support.				
39	The school considers student perspectives and includes student representation on appropriate committees, including curriculum and assessment and evaluation activities.				
40	Curricular revision ensures the overall integrity of the curriculum, avoiding curricular overload, redundancy, dilution of focus and insufficient depth of coverage for essential components of the curriculum.				
41	Students are actively encouraged and supported to assume responsibility for their own learning, including the self-identification of learning needs and gaps.				
42	Educational content appropriately and adequately addresses traditional, contemporary and future practice.				
43	Curricular content and teaching methodologies prepare students for practice in a variety of practice settings.				
44	Teaching and learning methodologies account for and cater to diverse learners, including different learning styles and preferences of students.				
45	Materials and resources are provided to the students (or cited) to enhance understanding and application of the educational material in practice.				
46	The programme provides opportunities for interprofessional education and activities.				

	Indicator	Non Compliant	Major Improvement Required	Minor Improvement Required	Compliant
47	The programme offers a broad range of elective subjects.				
48	Curricular content is evidence-based, balanced, objective, and unbiased.				
49	The educational activities use active learning strategies and exercises and promote and develop problem solving and critical thinking skills.				
50	The school has effective measures and processes to evaluate the achievement of each stated learning objective and competency development goal by all graduates.				
51	Student assessment criteria and methodologies are defined and implemented, serving as a basis for future curricular improvement.				
52	The evaluation process for academic and other staff involves self-assessment and includes appropriate input from peers, supervisors, and students.				

## 4. Defining, Achieving, and Measuring the Desired Outcomes

Achieving and measuring the desired outcomes is an essential component of the continuous quality improvement of the school, its educational programme, and other mission-related initiatives.

*Outcomes and Impact* (next section) are both outputs of the school and programme. In the Pillars model, *Outcomes* include the immediate, short term or intermediate term “products” or results of the school’s educational programme and other mission-related activities, they are generally relatively easy to identify and measure.

### 4.1. Educational outcomes and competencies

The competencies that must be achieved by graduates through the professional degree programme curriculum should be clearly stated by the school. Such competencies should include pharmacy-specific competencies as well as general competencies that apply to all health care professionals, such as ethical, caring and evidence-based practice, cultural competence, application of quality improvement principles, use of information technologies, communication skills, decision-making skills, and working in interprofessional

teams. In broad terms, according to FIP’s Global Competency Framework <sup>[4]</sup>, the competencies fall into four main areas:

- Provision of patient-care services at the individual and population levels;
- Promotion of public health;
- Management of systems and resources;
- Personal and professional competencies.

The competencies should be identified through profession-wide consensus, thereby reflecting the national vision for pharmacy practice and education, and should be appropriate to current and future national health care needs and priorities with regard to services provided by pharmacists. Practitioners (from all practice settings), regulators, educators, and consumers of pharmacy services should all contribute to the identification of professional competencies.

The competencies should be used to guide the development of student learning outcome expectations for the curriculum.

To anticipate future professional competencies and recognising that no professional degree programme can teach pharmacists everything that they will need to know and do throughout their professional careers, educational outcomes statements should incorporate the development of the knowledge, skills, attitudes and values necessary to become self-directed, lifelong learners.

## 4.2. Research, publications and other scholarly activity

Through the research, publications, and other scholarly activities of its academic staff and students, the school should contribute to the generation, dissemination, and application of new knowledge. The scientific and review papers, posters, books and other publications should increase the standing and reputation of the school in the academic and practice communities, nationally, regionally and internationally.

## 4.4. National and international collaboration

The school, with the support of the university, should establish productive and effective collaborations and networks with other schools (in pharmacy and other health professions and disciplines), universities, the pharmacy practice community, the pharmaceutical industry, government, national and international organizations, and other appropriate partners.

## 4.5. Quality Indicators related to *Outcomes*

## 4.3. Service and community engagement

The school, with the support of the university, should engage with its local community and support initiatives and projects that serve the health-related needs population, e.g., through public health campaigns and by advancing the pharmacy practice models in community pharmacy and hospital settings.

	Indicator	Non Compliant	Major Improvement Required	Minor Improvement Required	Compliant
53	Learning outcomes are competency-based, specific and measurable.				
54	Validated measures are used to evaluate the extent to which the desired outcomes of the professional degree programme (including assessments of student learning and evaluation of the effectiveness of the curriculum) are being achieved.				
55	Evaluation of learning outcomes includes all competencies (knowledge, skills, attitudes and values).				
56	Competencies to be achieved by graduates are clearly stated by the school.				
57	Competencies to be achieved by graduates aligned with national and global needs and trends.				
58	Students develop new knowledge and skills to improve patient and population health.				
59	Students adopt an ethical approach to develop their self-awareness, attitudes and values.				
60	The school assesses student professionalism, behaviour and attitudes.				
61	Through the research, publications, and other scholarly activities of its academic staff and students, the school contributes to the generation, dissemination, and application of new knowledge.				

	Indicator	Non Compliant	Major Improvement Required	Minor Improvement Required	Compliant
62	The school supports initiatives and projects that serve the health-related needs of the population and advance pharmacy practice models in community pharmacy and hospital settings.				
63	The school, with the support of the university, establishes productive and effective collaborations and networks with other schools, universities, the pharmacy practice community, the pharmaceutical industry, national and international organisations, the government, and other appropriate partners.				

## 5. Making an *Impact*

Making an *impact* by advancing pharmacy education, practice, and the profession, developing leaders and agents of change, contributing to meeting national health-related needs and goals, and advancing scientific, pharmaceutical, and medical knowledge and technology is the final proof of quality in pharmacy education.

In the Pillars model, *Impact* refers to notable, mid-level or high-level, longer-term effects on practice, the profession, and society resulting from the school and its programme, graduates, research and service activities, etc. Such effects are transformative in nature, changing the local, national or international environment, thereby over time creating a new *Context* for continuing advancement. *Impact* could include scientific, medical, or technological advances leading to reduced burden of disease and improved care, innovations in pharmacy practice, policies or education, and achievement by graduates of positions of leadership in the profession, industry, or society. Such impact is evidence of a socially accountable institution. Making these changes can be both challenging and slow; many other factors can have a positive or negative influence on the change. The school should be well prepared and able to address these challenges - including factors external and internal to the organisation - to improve quality.

### 5.1. Influence and desired impact

In its mission and vision statements, the school should clearly articulate the impact that it desires to have locally, nationally, regionally, and internationally (as applicable) through its education, research, and service activities. The desired

influence and impact should be reflected in the goals and objectives of the school's strategic plan.

### 5.2. Evaluation of impact

Through its evaluation plan or system, the school should strive to evaluate the impact that it is having on society, including:

- The success and positions of leadership achieved by its graduates
- The leadership of the school, its administrators and academic staff in the profession, educational and scientific communities nationally, regionally, and internationally
- Innovations and advances in pharmacy practice brought about by the collaborative efforts of the school and by graduates who are agents of change
- Advances in scientific, medical and pharmaceutical knowledge and technology, and translation of research outcomes into health-related and other patient, population and societal benefits.

### 5.3. Pharmacists' Oath

To reinforce the commitment of pharmacists to ethical behaviour and having the right impact on patient care and the pharmacy profession in general – in accordance with the principle of “Commitment to Change” - the school should provide the opportunity for pharmacy students and new pharmacy graduates to promise, in public, before their mentors and peers, to follow a high standard of professional conduct. Preceptors should reinforce this commitment during experiential education and internships. The school should adopt language for an “Oath of a Pharmacist” for this purpose. Schools are encouraged to consider adopting FIP's model

“Oath/Promise of a Pharmacist” for this purpose.<sup>h</sup> Students as future pharmacists and graduates as new pharmacists should feel honour and pride in belonging to the international pharmacy community and they must be aware that they are a direct reflection on the profession. They must promise to honour traditions, but also embrace and advocate for changes and advances, striving for excellence in all areas of their practice.

Students should promise to serve as an integral part of the health care team and maintain an active and collaborative dialogue with other health care professionals, always making patients their first concern. Most importantly, they have to accept the lifelong obligation to maintain and enhance their professional knowledge and competence, to gain and to share their experience, and to maintain the highest standards of practice. The Pharmacists’ Oath should include respect and appreciation for all colleagues, teachers, and health care professionals, as well as a commitment to nurture and prepare the next generation of pharmacists.

#### 5.4. Quality Indicators for Impact

	Indicator	Non Compliant	Major Improvement Required	Minor Improvement Required	Compliant
64	Learning leads to behaviour and performance changes by graduates.				
65	The school’s students and graduates feel honour and pride in belonging to the international pharmacy community and are aware that they are a direct reflection on the profession.				
66	New projects, services or activities are visible in pharmacy practice as the result of the impact of students’ and graduates’ knowledge, skills and motivation.				
67	Advocacy and impact on the development of the profession is achieved through the leadership of the school, its academic staff, and graduates who are agents of change.				
68	Innovations and changes that address or solve national and/or international health care-related needs and priorities are achieved.				
69	Ethical aspects, such as building the self-image of pharmacists, enhancing professional autonomy and personal development, are visible as a result of the programme.				
70	The school has developed and adopted an “Oath of a Pharmacist” to be taken by students before they enter practice.				
71	Pharmacy students and new pharmacy graduates promise, in public, before their mentors and peers, to follow the highest standards of professional practice and ethics and commit to lifelong learning to maintain and enhance their competence.				

<sup>h</sup> Available at [www.fip.org](http://www.fip.org)

# Section C

## THE QUALITY ASSURANCE AGENCY

*In this section of the Framework, a minimal amount of descriptive text (if any) is provided for each element. The primary objective of this section is to identify the key elements or aspects of structure, governance, policies and procedures that should be considered when establishing or restructuring a quality assurance agency/organization/council or committee (hereinafter referred to as an “agency”). Recognizing that systems of government and quality assurance of pharmacy education are diverse, the framework does not attempt to prescribe how such elements should be defined or expanded. Some elements may not apply to all national systems.*

### 1. Establishing the Structure, Mandate and Purpose of the Quality Assurance Agency

- 1.1. Mission, terms of reference, and scope of operations: *need to be established with input from key stakeholders and communicated to stakeholders.*
- 1.2. Legal/statutory status: *needs to be established.*
- 1.3. Recognition, authority, and accountability: *By whom is the agency recognized? What mandate and authority does it have? To whom is it accountable? What requirements and criteria must the agency meet? Independent/ autonomous agencies should have appropriate oversight and accountability - against defined criteria - to ensure consistency and impartiality in the decision-making process, and adherence to their own policies and procedures.*
- 1.4. Degree of autonomy in decision making: *The degree of autonomy in decision-making, development and adoption of standards, policies and procedures, etc., needs to be established and clearly understood by all stakeholders. Ideally, the agency should be free from undue political or sectoral influences, and conflicts of interest that could undermine quality and impartiality.*
- 1.5. Influence of market forces: *The ability of the agency to influence or be influenced by market forces (such as human resource/employment issues, commercial or competitive interests, etc.) needs to be established and clearly understood by all stakeholders. Market forces may influence the environment in which the agency operates, but all actions of the agency should be independent and determined only on the basis of the established standards, quality criteria, policies and procedures that have been developed and adopted with broad-based stakeholder input, and which account for different sectoral interests and perspectives.*
- 1.6. Relationships with other organizations and stakeholders: *What formal or informal relationships exist and how do they operate? The terms of reference for formal relationships should be clearly defined and publicly disclosed.*

### 2. Ensuring Good Governance and Decision-Making

- 2.1. Composition of the decision-making body: *What is the composition of the decision-making body? How is the inclusion of all required expertise and perspectives ensured, for example, educators, regulators and practitioners? As noted in 1.4, the agency should be free from undue political or sectoral influences, and conflicts-of-interest that could undermine quality and/or impartiality.*
- 2.2. Criteria for appointment or selection of members: *How are the members of the decision-making body appointed or selected? Clear criteria for selection (qualifications, experience, etc.) need to be established and consistently applied. The appointment or selection process must be transparent and free of conflict-of-interest.*
- 2.3. Members' terms of office: *need to be defined and communicated to stakeholders.*
- 2.4. Officers: *If used, how are officers of the decision-making body elected or appointed?*
- 2.5. Members' orientation and training: *Members of the decision-making body should receive adequate orientation and training related to the agency's standards, policies, procedures, and method of evaluation, prior to involvement in evaluation and decision-making activities on behalf of the agency.*
- 2.6. Public input: *How are the input and perspectives of the public in governance and decision making achieved?*

### 3. Funding and Sustaining Operations

*How will the agency be funded? If fees are charged for services provided by the agency, they should be published, applied fairly and consistently, and constituents should be notified in advance of any changes. The financial model should ensure the sustainability of operations.*

## 4. Implementing Fair and Effective Policies and Procedures

### 4.1. Board/Committee/Council operations

- 4.1.1. Procedure for school or programme evaluation: *the key components of the evaluation procedure should be established, communicated, and consistently applied.*
- 4.1.2. Meetings and decision-making process: *when meetings will be held and how they will be conducted should be established, communicated and consistently followed.*
- 4.1.3. Criteria on which decisions are based: *should be articulated and consistently and fairly applied.*
- 4.1.4. Continuous quality improvement: *the agency should evaluate the effectiveness and efficiency of its operations on a regular basis, with input from key stakeholders, with a view to its own continuous quality improvement.*

### 4.2. Evaluation/recognition/approval

- 4.2.1. Requirements for initial application for evaluation/recognition/approval; eligibility criteria: *if a school or programme is required to meet certain prerequisites, these should be clearly communicated in advance, and fairly and consistently applied.*
- 4.2.2. Stages of evaluation/recognition/approval, including requirements for new programmes' progression through these stages (if applicable to the system of quality assurance, this would primarily apply to new programmes or schools).
- 4.2.3. Evaluation/recognition/approval cycle: *once approved, what is the standard term (duration) of the review cycle, i.e., standard or maximum time interval between comprehensive evaluations? If the agency can award a term that is shorter than the standard term, the criteria for such a decision should be defined and the basis for the decision clearly disclosed to the school or programme.*
- 4.2.4. Requirements for maintenance of recognition/approval, including self-assessment and other reporting, annual monitoring data, ad hoc on-site evaluation visits/ audits: *any additional requirements, over and above the comprehensive on-site evaluation visit, need to be clearly defined and communicated.*
- 4.2.5. Consequences of non-compliance with standards/quality criteria: *need to be established and clearly communicated in advance to any school or programme that is potentially affected. The agency should establish and enforce clear expectations, including timelines, for the remediation of areas of non-compliance and mechanisms to monitor restoration of compliance.*

### 4.3. Public Disclosure/Transparency

- 4.3.1. Published standards (quality criteria), policies and procedures: *should be readily accessible to any interested person or stakeholder.*
- 4.3.2. Board/Committee/Council decisions and actions: *What information (such as decisions, proceedings from meetings, and communications with the agency) will be disclosed publicly? How will such information be communicated, and to whom? It is important for the agency to establish what is the appropriate balance between public disclosure/transparency (providing relevant information about the school or programme) which protects the interests of the students, prospective students and the public, and confidentiality (withholding from the public certain information about the school or programme) to encourage the school to be honest in its self-assessment and identification of areas where improvement is needed.*
- 4.3.3. Recognition/approval status of school or programme; as above. *The agency should have policies and procedures that clearly state what information should be disclosed about the recognition/approval status of the programme, including the status of new or developing schools and programmes. Information disclosed should include clarification of the meaning and implications of any particular status.*
- 4.3.4. Disclosures by the school or programme: *The agency should have policies that specify what information and data regarding the school or programme must be disclosed to the public and the mechanism for such disclosures.*

### 4.4. Policies and Procedures

- 4.4.1. Confidentiality: *to protect proprietary or sensitive information. (See also 4.3.2. above) Those involved in the evaluation and/or decision-making should maintain complete confidentiality about the school and programme. Only information released by the agency should be disclosed to the public.*
- 4.4.2. Conflict-of-Interest: *where a conflict-of-interest exists (as defined by the agency or appropriate regulation) or where there may reasonably be the perception of conflict-of-interest based on certain criteria, the applicable individual(s) must be excluded from participation in the evaluation of the school or programme and/or any involvement in or influence on the decision-making process. Policies and procedures must be established that allow for disclosure of actual conflict-of-interest or appearance of conflict-of-interest, the identification of the occurrence of a conflict-of-interest, and the manner in which situations involving a conflict-of-interest will be handled.*

- 4.4.3. Selection, orientation and training of evaluators: *appropriate criteria (qualifications, background, perspectives, and experience) for the selection of all persons involved in the evaluation process must be established and implemented. All such persons should receive adequate orientation and training related to the agency's standards, policies, procedures, and method of evaluation, prior to involvement in evaluation activities on behalf of the agency. The process for selection and appointment of members of evaluation teams should be impartial and criteria-based. Schools or programmes being evaluated should have the opportunity to vet team members to ensure that there are no conflicts-of-interest.*
- 4.4.4. Substantive change (in the school or programme): *policies and procedures should be established and implemented to ensure that the school or programme gives the agency adequate notice of proposed substantive changes (as defined) so that the impact of the change can be adequately evaluated by the agency and appropriate and timely action taken if needed. The agency should develop policy on how to handle such substantive changes and establish criteria for their approval, where appropriate.*
- 4.4.5. Appeals (against decisions/actions of the quality assurance agency): *the process for appeals and arbitration (if applicable) should be established and communicated to stakeholders.*
- 4.4.6. Complaints (against the quality assurance agency, a school or programme): *the process for submission, processing and resolution of complaints and arbitration (if applicable) should be established and communicated to stakeholders.*
- 4.4.7. Revision/updating of standards: *standards should be revised and updated on a regular basis. A policy, procedure, and anticipated schedule for review and revision of standards should be established and communicated to stakeholders. An important component of this is how stakeholder input is invited, encouraged, facilitated, and taken into consideration by the agency.*
- 4.4.8. Safeguards for students (for example, in the event of withdrawal of recognition/approval of an existing school or programme, or non-approval of a new school or programme): *rights of students, options, and contingency measures should be established in consultation with key stakeholders, and clearly communicated. The agency must always act in the overall best interests of the public.*

## Conclusion

Quality assurance of pharmacy education is essential to support the preparation of competent pharmacists and the ongoing development of the pharmacy profession; ultimately it enhances the services provided by pharmacists and pharmaceutical scientists and improves patient safety and medication-related outcomes. Quality assurance must be a primary focus of educational institutions and all key stakeholders.

As outlined in its *Statement of Policy on Quality Assurance of Pharmacy Education* <sup>[3]</sup>, it is the belief of FIP that in order to support the development of an adequate and appropriate pharmacy workforce and the academic and institutional infrastructure to deliver the required competency-based education and training, each country should have its own standards-based system for the quality assurance of pharmacy education. The Quality Assurance system should:

- Reflect the vision for pharmacy practice and education that has been developed through profession-wide consensus;
- Allow appropriate input from all stakeholders, including students and the public;
- Ensure that educational programmes are evidence and competency-based, of high quality and meet the needs of the people, the pharmacists, and their country;
- Evaluate programmatic outcomes as well as institutional structures and processes;
- Be transparent and be free of inappropriate influences and appearances of conflicts of interest in its development and implementation;
- Promote and foster self-assessment and continuous quality improvement of educational institutions;
- Be accountable to the appropriate governmental authorities.

Against this background, FIP recommends and encourages national governments, regulatory and quality assurance organizations to establish or enhance systems for quality assurance of pharmacy education that are based on standards or criteria of quality, and policies and procedures, which have been developed with broad stakeholder involvement, and provide opportunity for ongoing stakeholder involvement, including the public.

This Framework is offered to support and guide such efforts. Through its Education Initiative, FIPed, and specifically the Quality Assurance Domain, FIP is dedicated to the development and enhancement of tools and resources to support establishment of quality assurance systems, as well as open to collaboration, networking and sharing best practices quality assurance of pharmacy education.

# Section D

## GLOSSARY

*It is acknowledged that the definition and/or application of the terms listed below may vary from country to country. The text following each term is, therefore, intended primarily as a description of the general context in which the term **has been used in this document by the authors** and is not intended as a recommended definition for global adoption.*

**Academic staff:** The members of staff who have an academic title and are involved in teaching, research, scholarly activity, and service for the school. This includes staff personnel who hold an academic rank with titles such as professor, associate professor, assistant professor, instructor, lecturer, or the equivalent of any of these academic ranks. The category includes personnel with other titles, (e.g. dean, director, associate dean, assistant dean, vice-dean, chair or head of department), if their principal activity is instruction or research. It does not include student teachers or teacher aides. Similar term: faculty. (Source: adapted from Organisation for Economic Co-operation and Development, OECD.) (Similar term: **Faculty**, when referring to personnel)

**Accreditation:** the process whereby a statutory body, association or agency grants public recognition to an organization, site or programme that meets certain established qualifications or standards, as determined through initial and periodic peer-review based evaluations.

**Active learning:** a process or methodology whereby learners are actively engaged in the learning process, rather than “passively” absorbing lectures or learning materials. Active learning involves reading, writing, case studies, discussion, presentations, and engagement in problem solving, analysis, synthesis, evaluation, and decision making.

**Administrative staff:** See **[Other] Staff**

**Administrators:** senior executives with organizational, management and leadership positions, and authority and responsibility in the school (such as deans, vice-deans, etc.) or institution/university (president, chancellor, rector, provost, etc.).

**Appraisal:** an assessment or estimation of the worth, value, or quality of a person, performance, competence or activity.

**Approval:** official endorsement attesting to conformity to (compliance with) set standards and requirements. (Similar term: **Recognition**) (See also **Accreditation**)

**Assessment:** a test or measure of knowledge, skills, performance, achievement or learning for or in a specific area or process.

**Continuous Quality Improvement (CQI):** an approach that aims to constantly improve work practices, processes, structure, and/or outcomes.

**Competence:** habitual and judicious use of communication, knowledge, technical skills, reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served<sup>[8]</sup>.

**Competency:** the ability to make deliberate choices from a repertoire of behaviours for handling situations and tasks in the specific context of professional practice by using and integrating knowledge and personal values in accordance with professional role and responsibilities<sup>[8, 20]</sup>.

**Competencies:** the distinct set of knowledge, skills, behaviours, attitudes and values that an individual accumulates, develops and acquires through education, training and work experience and that is essential to the practice of a profession.

**Compliance/Compliant:** conformity with (meeting) the required standard or expectation.

**Continuing Education (CE):** a structured process of education designed to support the continuing development of pharmacists to maintain and enhance their professional competence.

**Continuing Professional Development (CPD):** the systematic maintenance, development and broadening of relevant knowledge, skills and attitudes of pharmacists, to ensure continuing competence as professionals throughout their careers. The CPD Model involves reflection (including self-assessment), planning, learning, evaluation, and documentation of a pharmacist's development.

**Credential:** documented evidence of professional or educational qualifications (examples include: degree, diploma, license, and board certification).

**Criterion/Criteria:**

- (1) the aspect of the programme that should be measured (as in “Quality Criteria”);
- (2) something that is used as a reason for making a judgment or decision (as in “Eligibility Criteria”).

**Director:** the head or leader of the school of pharmacy and professional degree programme. (Similar terms: **Dean, Head of School**)

**Educational Outcomes:** the intended quantifiable and measurable results (such as knowledge or skills) that should be achieved on completion of a course, module, or programme of study.

**Evaluation:** the forming of a judgment based on the collection, analysis and interpretation of data from process and outcome measures with a view to determining the quality of one or more activities and the achievement of desired outcomes.

**Internship:** a period of structured and supervised practical training undertaken after graduation and before licensure/registration.

**Learning Objective:** an outcome statement that captures specifically what knowledge, skills and attitudes learners should be able to exhibit following an education activity or course.

**License:** a credential issued by a government or regulatory body that indicates that the holder is in compliance with mandatory requirements necessary to practice in a particular profession or occupation. (See also **Registered**)

**Lifelong Learning:** all learning that occurs over the course of the career of a practitioner - including structured educational programmes or activities, training, informal or unstructured learning, and work-based learning - that aims to improve knowledge, skills and competencies.

**Mission:** the fundamental purpose, objective, or reason to exist (*raison d'être*) for an organization, institution, department, or course, which guides its planning and activities.

**Outcome:** the measurable end result of an activity or series of activities.

**Practice Experience:** a supervised structured or semi-structured learning activity that takes place in a practice setting and involves real-life situations and inter-personal interactions, e.g., with patients. (Similar terms: **Practice-based Learning, Experiential Education/Learning, Clinical Experience, Externship, Traineeship**) (See also **Internship**)

**Practice Site:** a health care delivery setting (e.g., a community pharmacy, clinic or hospital) or other appropriate setting (e.g., a pharmaceutical manufacturer, laboratory) in which students (or, in some cases, graduates before licensure/registration) undertake practice experiences.

**Preceptor:** a practitioner who teaches (in a structured or semi-structured fashion), mentors, supervises, and evaluates students in his or her professional practice setting. (Similar terms: **Practitioner-Educator, Clinical Instructor, Teacher-Practitioner, Tutor, Mentor**).

**Professional education/degree programme:** A postsecondary academic degree programme offered at an institution of higher education and designed to prepare graduates to practice as a pharmacist.

**Professionalism:** the demonstration of ethics, attitudes, values, qualities, conduct, and behaviours that characterize a profession, are expected of its practitioners, and that underpin the trust that the public has in the profession.

**Programmatic Outcomes:** the broad range of measurable deliverables (results or products) that an organized and cohesive group of activities (a programme) produces.

**Quality Assurance:** the systematic review, evaluation, follow-up and monitoring of educational programmes to ensure that acceptable standards of education, research and scholarly activity, governance, management, operations, student services, resources and infrastructure are being maintained.

**Recognition:** (see **Approval**)

**Registered:** Adjective used to describe a pharmacist who has met requirements for licensure or registration and whose name has been entered on a registry of practitioners who are licensed or registered to practice pharmacy in that jurisdiction. (Similar term: **Licensed**)

**Regulation:** the process of defining the laws, procedures, policies, criteria and codes by which the pharmacy profession is organized.

**Regulator:** the statutory body, organization, chamber, society, board or agency which is responsible for the regulation of the pharmacy profession or some aspects of it, such as, education, practice, manufacture, distribution and sale of medicines, etc.

**Scope of practice:** the range of professional tasks and functions that a practitioner can perform as specified by legislation, rules, regulations and competency; the boundaries within which a practitioner must practice.

**Social accountability:** the obligation of [health professional] schools to direct education, research and service activities towards addressing the priority health concerns of the community, region or nation that they are mandated to serve. The priority health concerns are to be identified jointly by governments, health care organizations, health professionals and the public. (WHO, adapted.)

**Stakeholder:** any individual, group, or organization that has an interest or involvement in or may be affected by a particular activity, set of activities or outcome.

**[Other] Staff:** administrative, technical and other support personnel in an office, organization, or institution (as distinct from “academic staff” or “faculty” as described above).

**Standard:** a description – set up and established by authority – of a level of quality (or quantity) that is expected to be met and against which judgments about quality will be made.

**Substantive change:** A major or substantial change in a school or its educational programme that might reasonably be expected to materially affect the quality or performance of the academic programme. Examples include (but are not limited to): any change in the established mission or goals of the school or institution; the addition or deletion of courses, pathway or programmes that represent a significant departure in either content or method of delivery; a substantial change in the number of students enrolled; a substantial change in the number of clock hours or credit hours required for successful completion of the programme; a

significant change in the duration of the programme; the establishment of an additional campus at a different geographic location at which the programme is offered.

**Tenure:** A position granted to senior academic staff who have demonstrated a worthy record in areas such as research and publication, teaching and service (community, institutional, and professional). It protects the time that the individual occupies a position and its usual purpose is to preserve academic freedom.

**Term:** the standard or limited (maximum) period of time for which something lasts or is intended to last; e.g., the length of appointment of a member/office of the governing body of the agency, the period of time between comprehensive evaluations of a programme or school.

## References

1. International Pharmaceutical Federation – FIP (2008). *A Global Framework for Quality Assurance of Pharmacy Education*. The Hague, The Netherlands: International Pharmaceutical Federation.
  2. International Pharmaceutical Federation – FIP (2000). *Statement of Policy on Good Education Practice*. The Hague, The Netherlands: International Pharmaceutical Federation.
  3. International Pharmaceutical Federation – FIP (2009). *Statement of Policy on Quality Assurance of Pharmacy Education*. The Hague, The Netherlands: International Pharmaceutical Federation.
  4. International Pharmaceutical Federation - Pharmacy Education Taskforce (2012). *A Global Competency Framework for Services Provided by Pharmacy Workforce*. The Hague, The Netherlands: International Pharmaceutical Federation (on-line). Available from: [www.fip.org/pe\\_resources](http://www.fip.org/pe_resources).
  5. FIP Pharmacy Vision 2020 (2011). The Hague, The Netherlands: International Pharmaceutical Federation (FIP); 2011.
  6. The Tokyo Declaration (1993). *Standards for Quality of Pharmacy Services* (FIP Guidelines for Good Pharmacy Practice, September 1993) and revised version FIP/WHO GPP (1997).
  7. International Pharmaceutical Federation – FIP (1998). *Statement of Professional Standards on Pharmaceutical Care*. The Hague, The Netherlands: International Pharmaceutical Federation.
  8. Epstein RM, Hundert EM (2002). Defining and assessing professional competence. *JAMA*. 287(2):226-235.
  9. World Health Organization – WHO (1995). *Defining and measuring the social accountability of medical schools*. Geneva, Switzerland: WHO/HRH/95.7.
  10. Govaerts MJB (2008). Educational competencies or education for professional competence? *Med Educ*. 42:234–236.
- Greiner AC, Knebel E, eds (2003). *Health professions education: A bridge to quality*. Washington, DC: The National Academies Press.
  - Bruno A, Bates I, Brock T, Anderson C (2010). Towards a global competency framework. *Am J Pharm Educ*. 74(3):56.
  - Wakefield J, Herbert C, Maclure M (2003). Commitment to change statements can predict actual change in practice. *J Contin Educ Health Prof*. 23(2):81-93.
  - Donabedian A (1988). The quality of care: How can it be assessed? *JAMA*. 260:1743-1748.
  - Boelen C, Wollard R (2009). Social accountability and accreditation: A new frontier for educational institutions. *Med Educ*. 43:887–894.
  - Boelen C, Wollard R (2011). Social accountability: The extra leap to excellence for educational institutions. *Med Teach*. 33:614-619
  - United Nations Educational, Scientific and Cultural Organization – UNESCO (2012). International Institute for Educational *planning, Guidelines for Education Sector Plan Preparation and Appraisal*, Global Partnership for Education.
  - Moore DE, Green JS, Gallis HA (2009). Achieving desired results and improved outcomes: Integrating planning and assessment throughout learning activities. *J Contin Educ Health Prof*. 29(1):1-15.
  - Medina MS, Plaza CM, Stowe CD *et al* (2013). Center for the Advancement of Pharmacy Education (CAPE) Educational Outcomes 2013. *Am J Pharm Educ*. 77(8):162.
  - Meštrović A, Staničić Z, Bates I, Bruno A *et al* (2011). Evaluation of Croatian community pharmacists' patient care competencies using the General Level Framework. *Am J Pharm Educ*. 75(2):Article 36.
  - Council on Credentialing in Pharmacy – CCP (2001). Credentialing in Pharmacy. *Am J Health Syst Pharm*. 58:69-76.

## Additional literature

- World Health Organization - WHO (1997). *The Role of the Pharmacist in the Health Care System. Preparing the Future Pharmacist: Curriculum Development. Report of a Third World Health Organization Consultative Group on the Role of the Pharmacist*. Vancouver, Canada 27-29 August 1997.
- World Health Organization – WHO (2006). *The World Health Report 2006 – Working Together for Health*. Geneva, Switzerland: World Health Organization.
- Institute of Medicine - IOM (2009). *Redesigning Continuing Education in the Health Professions*. Washington, DC: The National Academies Press.
- World Health Organization – WHO (2010). *Global Code of Practice on the International Recruitment of Health Personnel*. Geneva, Switzerland: World Health Organization (on-line). Available from [http://www.who.int/hrh/migration/code/WHO\\_global\\_code\\_of\\_practice\\_EN.pdf](http://www.who.int/hrh/migration/code/WHO_global_code_of_practice_EN.pdf)
- Wakefield JG (2004). Commitment to change: exploring its role in changing physician behaviour through continuing education. *J Contin Educ Health Prof*. 24:197-204.
- Remington JP, Troy DB, Beringer P (2006). *Remington: The science and practice of pharmacy*. University of Sciences in Philadelphia, 21<sup>st</sup> edition.
- Austin Z (2004). Development and validation of the Pharmacists' Inventory of Learning Styles (PILS). *Am J Pharm Educ*. 68(2): Article 37.
- Austin Z (2004). Learning styles of pharmacists: Impact on career decisions, practice patterns and teaching method preferences. *Pharmacy Education*. 4(1):13
- Brophy J (1999). Toward a model of the value aspects of motivation in education: Developing appreciation for particular learning domains and activities. *Educ Psychol*. 34(2):75-85.
- Latif D (2000). Cognitive moral development and pharmacy education. *Am J Pharm Educ*. 64:451-454.
- Schafheutle EL, Hassell K, Ashcroft DM, *et al* (2012). How do pharmacy students learn professionalism? *Int J Pharm Pract*. 20:118-128.
- International Pharmaceutical Federation – FIP (2009). *Understanding, preserving, and protecting pharmacists' professional autonomy*. FIP Executive Committee and the Community Pharmacy Section Session Summary. FIP Congress, Istanbul, Turkey.
- International Pharmaceutical Federation – FIP (2014). Model "Oath/Promise of a Pharmacist." FIP (on-line). Available from: [www.fip.org](http://www.fip.org).

## Acknowledgements

The contribution made to this document by the following individuals, is gratefully acknowledged:

**Australia** - Jennifer Marriott, Faculty of Pharmacy and Pharmaceutical Sciences, Monash University, Parkville, Victoria.

**Canada** - David Hill, College of Pharmacy and Nutrition, University of Saskatchewan, Saskatoon, Saskatchewan; Terri Schindel, Faculty of Pharmacy and Pharmaceutical Sciences, University of Alberta, Edmonton Alberta; Arthur Whetstone, Canadian Council on Continuing Education in Pharmacy, Saskatoon, Saskatchewan.

**Chile** - Patricia Acuña Johnson, Escuela de Química y Farmacia, Facultad de Farmacia, Universidad de Valparaíso.

**India** - Bhojraj Suresh, Jagadguru Sri Shivarathreeshwara (JSS) University, Mysore.

**Namibia** - Timothy Rennie, School of Pharmacy, University of Namibia, Windhoek.

**South Africa** - Fatima Suleman, School of Health Sciences, University of KwaZulu-Natal, Durban.

**United Kingdom** - Claire Anderson, School of Pharmacy, University of Nottingham, Nottingham; Ian Bates, University College London, School of Pharmacy, London.

**United States of America** - Wafa Y. Dahdal, American College of Clinical Pharmacy, Lenexa, Kansas; Janet P. Engle, College of Pharmacy, University of Illinois at Chicago, Chicago, Illinois; C. Alan Lyles, College of Public Affairs, University of Baltimore, Baltimore, Maryland; Lucinda L. Maine, American Association of Colleges of Pharmacy, Alexandria, Virginia; Peter H. Vlasses, Accreditation Council for Pharmacy Education, Chicago, Illinois.

**FIP** - Luc Besançon, Andreia Bruno, Joana Carrasqueira, FIP staff.

The contribution of the following individuals, who participated in the validation of *Version 1* of FIP's Global Framework for Quality Assurance of Pharmacy Education, is gratefully acknowledged. Individuals are listed under the country for which they participated.

**Australia** - Timothy Chen, Frank Payne, Benjamin Jackson, Robin Parisotto.

**Canada** - David Hill, Raymond Joubert, Claude Mailhot.

**Chile** - Patricia Acuña Johnson, Humberto Dölz, Guillermo Gonzalez, Ann Loren Smith.

**Egypt** - Azza Agha, Mohamed Refaat, Aiman Saad El-Khatib.

**Finland** - Yvonne Holm, Eeva Leinonen, Johanna Pitkänen, Erik Wallén.

**Ghana** - Daniel Amaning Danquah, Mahama Duwiejua, Anthony Kofi Mensah, Joseph Nyoagbe.

**Great Britain** - Mark Brennan, Damian Day, Alistair Murray, Keith Wilson.

**India** - Archana Mudgal, Sampada Patvardhan, HG Shivakumar, Raj Vaidya.

**Japan** - Sasaki Hitoshi, Nahoko Kurosawa, Koichiro Ozawa.

**Jordan** - Bayan Abdulhaq, Sayer Al-Azzam.

**Lebanon** - Ziad Nassour, Aline Saad, Farid Sadik.

**Mexico** - Carmen Giral, Vicente Jesús Hernández-Abad, Dea Herrera-Ruiz.

**Nepal** - Uttam Budhathoki, Balkrishna Khakurel, Panna Thapa, Rajkumar Thapa.

**The Netherlands** - Karin Beuning, Marcel Bouvy, Frans van de Vaart.

**New Zealand** - Bronwyn Clark, John Shaw, Andi Shirtcliffe, Dianne Wright.

**Pakistan** - Mahmood Ahmad, Naziruddin Ahsan, Abdul Latif Sheikh.

**Portugal** - Paula Iglésias-Ferreira, Rita Ramos, Henrique José Mateus Santos, Tiago Miguel Farrajota Santos.

**Serbia** - Svetlana Golocorbin-Kon, Spomenka Milanovic, Dragana Sovtic.

**Singapore** - Hui-Gek Ang.

**Slovenia** - Andreja Cufar, Darja Frankič, Mirjana Gasperlin.

**South Africa** - Carmen Oltmann, Lorraine Osman, Susan Putter, Stephen White.

**Syria** - Sahar Al-Fahoum, Yaman Al-Khouli, M. Amer Al-Mardini.

**United States of America** - Malcolm Broussard, Jill Martin-Boone, Janet Silvester, Jeff Wadelin.

**Zambia** - Aubrey Chichonyi Kalungia, Lungwani Muungo.

# Colophon

Copyright© 2014 International Pharmaceutical Federation (FIP)  
Fédération Internationale Pharmaceutique (FIP)

Andries Bickerweg 5  
2517 JP The Hague  
The Netherlands  
www.fip.org – fip@fip.org  
.....

All rights reserved. No part of this publication may be stored in any retrieval system or transcribed by any form or means – electronic, mechanical, recording, or otherwise without citation of the source. FIP shall not be held liable for any damages incurred resulting from the use of any data and information from this document. All measures have been taken to ensure accuracy of the data and information presented in this document.

The framework is available for electronic download from: [www.fip.org/educationreports](http://www.fip.org/educationreports)  
.....

**Author:**

Mike Rouse, FIP Education Initiative (FIPEd) Quality Assurance Domain Lead

**Co-Author:**

Arijana Meštrović, FIP Education Initiative (FIPEd) Quality Assurance Domain Team

**Editor:**

Andreia Bruno, FIP Education Initiative (FIPEd) Project Coordinator and Researcher

**Design:**



[www.bug-group.com](http://www.bug-group.com)  
.....

Recommended citation: International Pharmaceutical Federation – FIP (2014). *Quality Assurance of Pharmacy Education: the FIP Global Framework*. The Hague, The Netherlands: International Pharmaceutical Federation.





Fédération  
Internationale  
Pharmaceutique

International  
Pharmaceutical  
Federation

Andries Bickerweg 5  
2517JP The Hague  
The Netherlands

T +31 70 302 19 70  
F +31 70 302 19 99  
fip@fip.org

[www.fip.org](http://www.fip.org)