The International Forum for
Quality Assurance of Pharmacy Education

A Global Framework for Quality Assurance of Pharmacy Education

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Table of Contents

Introduction: Background and Intended Purpose of the Framework

A Global Need to Build Capacity and Assure Quality

Globally, pharmacy practice and education are undergoing unprecedented change as the role of the pharmacist as a provider of healthcare services is increasingly recognized, valued, and expanded. Many countries are, however, faced with critical shortages of pharmacy workforce (pharmacists and pharmacy technicians) and other healthcare professionals and workers. The World Health Organization has concluded that in many countries healthcare targets cannot be realized until capacity is built in the healthcare system. A primary focus in this regard is the development of an adequate and appropriate healthcare workforce, along with the academic and institutional infrastructure to deliver the required competency-based education and training. Many countries are introducing, expanding, or undertaking major reform of pharmacy education. Such developments must be accompanied by robust systems to assure the quality of the educational *structures*, *processes* and *outcomes*; the latter primarily being graduates who are competent and capable of performing safely and effectively in their practice setting and contributing to the delivery of healthcare.

The International Forum for Quality Assurance of Pharmacy Education

To promote and facilitate international dialogue and collaboration in the area of quality assurance[a] of pharmacy education, the *International Forum for Quality Assurance of Pharmacy Education* (the "Forum") was established in 2001. It operates under the auspices of the Academic Section of the International Pharmaceutical Federation (FIP), primarily as an informal network of individuals interested in the quality assurance and quality advancement of pharmacy education. The objectives of the Forum are:

- to promote excellence in education for the profession of pharmacy
- to provide an international forum for information exchange, collaboration and cooperation in the area of **quality assurance of pharmacy education** for entry-to-practice degree programs, continuing education (CE) and continuing professional development (CPD)
- to facilitate and promote communication between individuals, agencies, associations, and other bodies 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 and education are reducing this diversity, current differences - on a global scale - are still considered to be fairly significant. In many countries, quality assurance systems for pharmacy education are well-developed; in other countries, they are still emerging.

[a] Terms that are underlined are included in the Glossary (Section D)

Members of the Forum generally advocate that countries should have their own national system of quality assurance and standards for pharmacy education that reflect contemporary and emerging pharmacy practice (within the overall system of healthcare delivery) and education, and meet the specific needs of the country. However, it is also believed that 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 Forum 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 and, furthermore, that the development of such a framework was an appropriate project for the Forum.

Core Principles and Elements of Quality Assurance

Accordingly, it was decided to undertake a project to develop a global framework for quality assurance of pharmacy education (hereinafter referred to as the "framework") that would incorporate *core principles and elements* considered essential for an effective approach to quality assurance. The first phase of the project, presented herewith, has addressed "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 program at a post-secondary (higher education) level. The principles of quality assurance outlined in the framework should, however, apply to all levels of formal education. It is proposed that a future exercise will address quality assurance for continuing education and continuing professional development for pharmacists.

Recognizing the diversity referred to earlier, the development of a set of global standards for pharmacy education was not considered at this time, as has been done for medical education.[b] The desirability and feasibility of such an undertaking may, however, be re-considered in the future. The authors of this document have tried to avoid being prescriptive, as the framework is intended more as a foundation that can be adapted and built upon to suit national needs, systems, and conditions. The framework focuses more on the *elements* that need to be included, and how these elements are applied in principle, rather than being specific or detailed. The framework does not advocate for any one overall model or system of quality assurance but, in some cases, comments on different approaches that exist and reports on emerging trends.

Collaborative Development of the Framework

To maximize the value and global applicability of the framework, input has been sought and received from as many countries as possible. The document, therefore, has drawn from the experience and perspectives of many countries with different systems of quality assurance. In developing the framework, every effort has been made to focus on common elements, and to avoid bias and the use of terminology, principles, and specifics that may not be universally applicable. However, 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. Such terminology should be interpreted broadly and, as deemed necessary, the context of its use is described in the glossary or in foot notes. Readers are requested to apply

[b] World Federation for Medical Education www.wfme.org

the principle behind the term even if different terminology or systems apply in their own situation. Translation of the framework into multiple languages is also planned.

The framework 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 a framework for a national quality assurance system, primarily in terms of structure and process; Section C offers quality criteria for pharmacy education; and Section D provides a glossary, as discussed above.

A Priority for FIP's Pharmacy Education Taskforce

In 2007, the development of the framework was adopted as one of the three priority projects of the *Pharmacy Education Taskforce*, an FIP-led initiative with formal collaboration from the World Health Organization (WHO) and the United Nations Educational, Scientific and Cultural Organization (UNESCO). While it is believed 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 is envisioned that it will also be used by individual institutions in their self-assessment and quality improvement efforts. With this application in mind, the *Quality Criteria for Pharmacy Education* (found in Section C) have been incorporated in the joint WHO/FIP tool *Institutional Self-Assessment in Pharmacy Education*.

Proposed Use of the Framework

The framework is intended as a companion piece to FIP's *Statement of Policy on Good Pharmacy Education Practice* (adopted September 2000).[1] 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 programs; a somewhat different – though complimentary - focus from that provided by this document.

In line with the objectives of the Forum stated earlier, the framework is offered 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 the continuous quality improvement of existing systems of quality assurance. 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 authors consider the framework to be a "living" document that will be tested, validated and continue to evolve over time. Feedback on its application and usefulness, as well as comments and suggestions for improvement, are most welcome. The contribution of numerous individuals, organizations and associations in the development and review of this document is gratefully acknowledged.

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Section A: Quality Assurance in Pharmacy Education

1. A Vision for Pharmacy Practice and Education

1.1. National, societal, and population needs

As professionals, pharmacists serve the needs of the society in which they practice – both at an individual patient or consumer level and at the broader population level. Just as political, healthcare, and regulatory systems differ from country to country, so do the healthcare needs and priorities of nations; many factors account for or contribute to this diversity. 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 healthcare delivery is, however, changing dramatically on a global level. The changes, in the main, can be summarized as a shift in focus from development, production, and safe distribution of pharmaceutical products to a focus on assuming a greater responsibility for the safe and effective use of medications by patients and populations. Additionally, pharmacists are assuming key roles in health promotion and disease prevention and the management of systems and resources associated with healthcare delivery. These developments have been well described in previous FIP documents, such as *Standards for Quality of Pharmacy Services* (1993, 1997) and *Statement of Professional Standards on Pharmaceutical Care* (1998).[2,3] On a global basis, countries are at many different stages in this transition, and even within countries there may be geographic and/or sectoral differences in the degree to which change has been effected. Cultural, historical, and political factors also impact the rate of change.

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 and ageing 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 quality. As nations seek to improve services and standards for healthcare delivery, greater attention is being paid to the quantity and quality of healthcare practitioners, including the systems in place to assure the quality of education and training and the ongoing competence of practitioners.

1.2. Development of a national, profession-wide vision for pharmacy practice and education

Recognizing the many benefits that can accrue to society through the expanded use of pharmacists in healthcare delivery, many countries are undergoing (or planning to undergo) a major reform of pharmacy education. They are examining the roles and responsibilities that pharmacists can and should have in the delivery of healthcare services, and articulating the competencies that are required to effectively carry out these roles and responsibilities. They are considering what level, model, and duration of education and training is needed to ensure that pharmacists achieve these competencies

before entering practice and maintain and enhance them thereafter. Educators and policy makers are considering education from a standpoint of "fitness for purpose" for current needs and priorities in the healthcare system as well as desired expanded roles and responsibilities for 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 and competencies to be achieved and 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 education and practice should be developed through a collaborative effort.

Any professional arena involves a complex and dynamic interplay between practice, regulation, and education. At different times, it is likely that developments or initiatives in one area will lead or drive change in others as depicted in *Figure 1*. 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 the needs of practice. Quality assurance systems that proactively engage with practice, education and regulation can also be drivers for quality advancement in education.

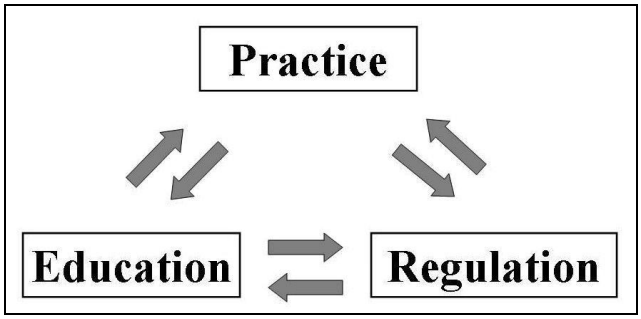

Figure 1: The dynamic relationship between Practice, Education and Regulation

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 way they have learned.

1.3. Stakeholder involvement in assuring and advancing 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 stakeholders to have input and, furthermore, that such input is taken into account. This is discussed in more detail below.

2. The Philosophy and Purpose of Quality Assurance in Pharmacy Education

2.1. Identifying the stakeholders

As outlined above, there are many stakeholders who have an interest in the quality of pharmacy education. The major stakeholders are identified in Figure 2. From a political and regulatory standpoint, the government and, where applicable, additional specific authorities responsible for the practice of pharmacy have the duty to protect the interests and wellbeing of the public. Among other things, 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 approved program of study is a standard pre-requisite for licensure or registration as a pharmacist. Invariably, as major (or exclusive) contributors to the financing of higher education, governments have another reason to desire quality outcomes of 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 and indications are that government-based systems remain the most pervasive.

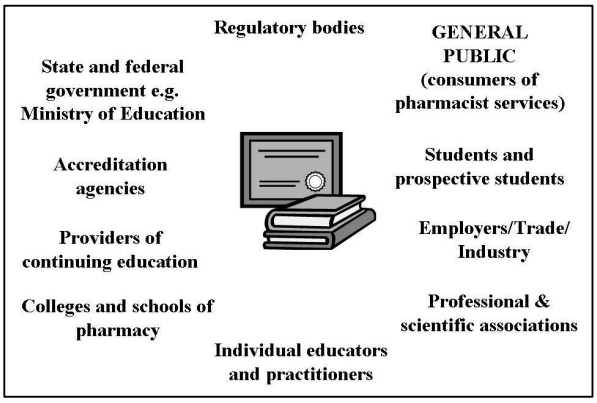

Figure 2: Stakeholders in the quality assurance of pharmacy education

Students have an obvious interest in the quality of education, as do their parents or other sponsors. As the primary recipients of education, students' input is an essential component of the quality assurance process, yet student feedback and evaluation alone cannot provide the full scope of required perspectives. The interests of members of the faculty, staff, and administrators in these schools, as well as other affiliated organizations or individuals should also be protected and advanced through an effective quality assurance system, particularly when greater attention may be given to the interests of other programs at an institution that are subject to external quality assurance or

accreditation processes. The institutions that offer pharmacy education – universities, schools, or colleges (hereinafter generically referred to as "institutions" or "schools") - benefit from a standardized, external evaluation of their program. 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.

Ultimately, however, it is the general public - as the final "consumers" of the wide ranging services provided directly and indirectly by pharmacists – that benefits most from the system that assures the quality of education and training provided to pharmacists. Increasingly, it is becoming policy and practice that members of the public are involved in some way in the quality assurance of education and regulation of the practice of healthcare professionals.

2.2. Different models for quality assurance

Governments have traditionally been responsible for the quality assurance of education for healthcare 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 organization or institutions self-regulate. In some countries, more independent and autonomous agencies have been established, often in terms of a government mandate or in some other way accountable to government. They maintain a large degree of independence and autonomy in decision making and operations. The latter model or system represents a growing trend, and would include agencies who classify their qualify 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 reduced to a minimum.

In some countries, for professional degree programs such as pharmacy offered at institutions of higher education, quality assurance can occur at two levels – the institutional/university level and the specific program level. In the latter, the respective quality assurance body or agency (hereinafter referred to as the "agency") only evaluates the professional degree program and directly related aspects of the institution or school. In the former, the agency evaluates all aspects of the institution, including all programs or degrees offered. This framework is presented from the perspective of program 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 have not been discussed in this framework. This is primarily because it is believed that the principles and core elements of quality assurance that the framework articulates can apply to any system of quality assurance.

2.3. Concepts and elements of quality assurance

While quality assurance might often be perceived simply as a system of external review by an entity not directly involved in the process or institution being evaluated, a

comprehensive quality assurance system should incorporate many more elements and promote a specific culture within the institution whose process or program is being evaluated. One of the key foundations of any quality assurance system is the *standards* or *criteria* by which quality is defined or - to use a colloquial term - by which "the height of the bar" is set.

All quality assurance systems should be based on well-articulated standards that clearly state their purpose and expectation. Such standards should be:

- developed through a collaborative and transparent process involving all key stakeholders;
- endorsed profession-wide;
- evidence-based;
- validated through reliable measures and outcomes;
- publicly disclosed; and
- reviewed and updated periodically to ensure contemporary applicability.

National standards should ensure that core educational outcomes (as defined by the profession) and other programmatic outcomes are achieved while still allowing for innovation and mission-related differences to exist between schools and programs as depicted in Figure 3.

Figure 3: 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 are achieved and that core quality elements – in terms of structure and process - are established and maintained to support the achievement of the desired outcomes. These three main areas can be summarized as *Outcomes*, *Structure*, and *Process* (Figure 4); they are expanded on in more detail in Section C.

Figure 4: The Pillars of Quality

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 stakeholder input as appropriate) and made publicly available.

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 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 (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 monitoring or reporting requirements. These make use of indicators or benchmarks which can serve as early warning signals or highlight potential 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 (or otherwise) with the established standards or criteria. In this way, the institution is also encouraged to identify areas in which they feel they need to improve and to develop and implement strategies to rectify any identified deficiencies. This approach is also intended to promote a *culture of assessment* and continuous quality improvement within the institution, such that - to a large extent - the institution assumes responsibility for its own, ongoing quality assurance and quality advancement. Ideally, the quality assurance agency should be regarded as a partner, facilitator, 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: The Quality Assurance Agency

In this section of the framework, a minimal amount of descriptive text (if any) is provided for each element. The primarily 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. Structure and Purpose of the Quality Assurance Agency

1.1. Mission, terms of reference, and scope of operations: *need to be established 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?*

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.*

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.*

1.6. Relationships with other organizations and stakeholders: *What formal or informal relationships exist and how do they operate?*

2. Governance and Decision Making

2.1. Composition: *What is the composition of the decision making body? How is the inclusion of all key stakeholder 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 efficiency***.**

2.2. Officers: *If used, how are they elected or appointed?*

2.3. Public input: *How is the input and perspectives of the public ensured?*

2.4. Criteria for appointment or selection of members: *How are the members of the governing body appointed or selected? Clear criteria for selection (qualifications, experience, etc.) need to be established and implemented.*

2.5. Term of office of members: *need to be defined and communicated to stakeholder*

3. Funding

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.

4. Policies and Procedures

4.1. Board/committee/council operations

4.1.1. Procedure for school or program evaluation: *the key components of the evaluation procedure should be established, communicated, and consistently applied.*

4.1.2. Meetings and decision making process: w*hen 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.*

4.2. Evaluation/recognition/approval

4.2.1 Requirements for initial application for evaluation/recognition/approval; eligibility criteria: *if a school or program 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 progression through stages *(if applicable to the system of quality assurance, this would primarily apply to new programs or schools).*

4.2.3 Evaluation/recognition/approval cycle: *once approved, what is the standard duration of a review cycle, i.e., maximum interval between comprehensive evaluations?*

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 visits 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 program that is potentially affected*

4.3. Public Disclosure

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?

4.3.3. Recognition/approval status of school or program; *as above*

4.4. Policies and Procedures

4.4.1. Confidentiality: *to protect proprietary or sensitive information*

4.4.2. Conflict of Interest: *anyone with a conflict of interest (as defined by the agency or appropriate regulation) must be excluded from participation in the evaluation of the applicable school or program; policies and procedures must be established to allow for the identification of the occurrence of a conflict of interest.*

4.4.3. Selection and training of persons used in evaluation: *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 training related to the agency's standards, policies, procedures, and method of evaluation, prior to involvement in evaluation activities on behalf of the agency.*

4.4.4. Substantive change (in the school or program): *policies and procedures should be established and implemented to ensure that the agency is given adequate notice of proposed substantive changes (as defined) so that the impact of the change can be adequately evaluated by the agency and appropriate action taken if needed.*

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 program): *the process for complaints and arbitration (if applicable) should be established and communicated to stakeholders.*

4.4.7. Revision/updating of standards: *a policy, procedure, and likely schedule for review and revision of standards should be established and communicated to key stakeholders; a key component of this is how stakeholder input is invited, 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 a school or program): *rights of students, options, and contingency measures should be established in consultation with all stakeholders, and clearly communicated.*

Section C: Quality Criteria for Pharmacy Education

The *Quality Criteria for Pharmacy Education* describe the principles and core elements for quality assurance. They address to the *outcomes*, *structure* and *process* of pharmacy education. Developed through open international consultations since 2001 by the International Pharmaceutical Federation (FIP) *Forum for Quality Assurance of Pharmacy Education*, the *Criteria* are part of a broader framework that provides guidance for the development of quality assurance systems. The *Criteria* serve as a tool to facilitate the establishment of quality assurance and standards in countries where no such formal systems exist or in the continuous quality improvement of existing systems.

1. Outcomes

1.1. Educational outcomes and competencies

Quality assurance standards for professional programs in pharmacy should be competency-based. The competencies that must be achieved by graduates through the professional degree program curriculum should be clearly stated by the school. Such competencies should include pharmacy-specific competencies as well as general competencies that apply to all healthcare professionals, such as ethical, caring and evidence-based practice, cultural competence, application of quality improvement principles, use of information technologies, and working in interdisciplinary and interprofessional teams. In broad terms, the competencies that need to be achieved by pharmacists fall into three main areas: provision of patient-care services at the individual and population levels; management of systems and resources; and promotion of public health. 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 healthcare needs 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 recognizing that no professional degree program 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 skills and attitudes necessary to become self-directed, lifelong learners.

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, such as: provision of patient care; management and use of resources of the health care system; and promotion of health improvement, wellness, and disease prevention) or at a more detailed level specifying multiple, more specific competencies. As an example, the required competencies could be aligned with the seven roles of pharmacists acknowledged by the International Pharmaceutical Federation (FIP) and the World Health Organization (WHO) as described in the "Seven Star Pharmacist," i.e., care giver, decision maker, communicator, leader, manager, life-long learner, and teacher.[1,4] In developing its own educational outcome and competency statements, the school must ensure that it addresses all the outcomes and competencies addressed in the standards.

1.2. Evaluation of achievement of mission-related outcomes

1.2.1. Student learning and curricular effectiveness

As a component of its overall evaluation plan (see Paragraph 3.3), the school should develop and undertake assessment activities to collect data regarding the attainment of desired student learning outcomes. The assessment activities should employ a variety of valid and reliable measures systematically and sequentially throughout the professional degree program. 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.

1.2.2. Other mission-related outcomes

See 3.3

2. Structure

2.1. 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[c], contribution to pharmacy practice, and advancement of the profession. The mission and goals should reflect and align with the national (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 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 quality criteria (standards). Progress towards achievement of the mission and goals should be measured and evaluated on a regular basis, and follow-up action initiated as required.

The school should strive to provide an environment and culture that promotes professional and ethical behavior, and harmonious relationships among administrators, faculty, staff, preceptors and students. Faculty, administrators, staff, and preceptors

[c] 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

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, faculty, staff, preceptors, and students in local and national pharmacy, scientific, and other professional organizations, as appropriate.

The school should implement strategies and programs to broaden the professional horizons of students in areas such as scientific inquiry, scholarly concern for the profession, the relevance, methodology and value of research, and postgraduate education and training.

2.2. Organization, administration, leadership, and communication

2.2.1. The Director of the school or professional degree program

Working with other university administrators, the Director of the school or program (such as the Dean or equivalent) should provide leadership to the school of pharmacy and assume primary responsibility for ensuring the quality of the professional degree program. The Director should have appropriate qualifications and experience to provide leadership in all mission-related areas, ensure effective communication with all stakeholders, secure adequate resources, and be able to unite and inspire administrators, faculty, 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.

2.2.2. Organizational structure

The school should be organized 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 organizational unit development and collegiality, and appropriately allocate resources. The efficiency and effectiveness of the organizational structure should be evaluated to ensure that it properly supports the achievement of the mission and goals. If the school organizes its faculty 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 program and overall mission. The periodic review of the administrative leaders of the school should include input from other administrators, faculty, staff, students, and preceptors.

2.2.3.Committees

Faculty committees and faculty meetings should be part of the system of governance of the school. Faculty committees should be established to 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 staff, students, alumni,[d] preceptors, and pharmacy practitioners.

2.3. Collaborative relationships

1.1.1. 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), faculty, 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. 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 enrollment; student admission and progression; and faculty and staff recruitment, retention, development, and evaluation.

1.1.2. 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; 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.

2.4. The curriculum

The curriculum for the professional degree program should support the preparation of graduates with the competencies needed to enter pharmacy practice in any setting (as described in 1.1) and contribute to the profession of pharmacy throughout their career. The curriculum should provide a thorough foundation (knowledge base) in the biomedical, pharmaceutical, social, behavioral, administrative, and clinical sciences, and a range of pharmacy practice experiences[e] that integrate, apply, reinforce, and advance

[d] Graduates of the program or school

[e] Practice experiences (also referred to as practice-based learning or experiential education) in the healthcare professions have been shown to promote competence by teaching students how to integrate and apply knowledge in practice settings, learn from role models and experience interdisciplinary and interprofessional team approaches to the provision of healthcare 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, behaviours, and judgments of experienced practitioners.[5]

the knowledge, skills, attitudes, behaviors and values developed through the other components of the curriculum. The curriculum should develop in graduates the ability to integrate and apply learning to the present and future practice of pharmacy. Graduates should be prepared (educated/trained) to be agents of change and contribute to the advancement of the profession. The professional degree program should satisfy the educational requirements for licensure (or registration) 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 program, 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. Criteria for the selection of preceptors and practice sites should be established and implemented. The objectives for each pharmacy practice experience and the responsibilities of the student, preceptor, and practice site should be clearly defined and mutually agreed. 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 healthcare professionals.

2.5. Resources

2.5.1 Faculty, staff and preceptors

The school should have a sufficient number of qualified full-time faculty and staff to effectively deliver and evaluate the professional degree program, while providing adequate time for faculty development, research and other scholarly activities, service, and pharmacy practice (for applicable faculty). The full-time faculty and staff may be complemented by part-time and voluntary faculty, staff and preceptors. Adequate support and technical staff resources should be provided to allow effective and efficient operation of the school. Adequate strength of the faculty and staff should be ensured through capacity planning and recruitment and retention strategies.

Members of the faculty and staff, individually and collectively, should be committed to the school's mission and goals, and respect their colleagues and students. Members of the faculty 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 profession and the pursuit of research and other scholarly activities. The school should foster and support the professional development of its faculty, preceptors and staff, commensurate with their responsibilities in the program. The school should ensure

that policies and procedures for faculty recruitment and retention, promotion and tenure[f] (if applicable) are established and applied in a consistent manner.

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

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

Faculty 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 and review articles. The school should foster an environment that encourages contributions by the faculty to the development and transmission of knowledge and should contribute to the advancement of knowledge and to the intellectual growth of students through scholarship. Faculty should be encouraged and supported to be actively involved in the governance of the school and associated academic institutions (e.g., through involvement on committees), in professional and scientific societies, and in community service.

The school should identify 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.

2.5.2. Financial resources[g]

With the support of the university, the school should develop and maintain a broad base of financial support to ensure that it has the financial resources necessary to provide a stable environment in which the school and program 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

[f] Tenure: A position granted to senior faculty members 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.

[g] 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.

university administrators responsible for the pharmacy program should have a clear understanding of the resource needs of the professional degree program, such as the need to support scholarship and research and the requirements of the library, educational resources and experiential education.

2.5.3. Physical facilities

The school should have 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 and learning, and facilitate interaction among administration, faculty, and students. Facilities should include offices, lecture rooms, small classrooms, facilities for individual and small group study by students, student activity areas, information and communication technologies (with appropriate data security and recovery systems), and other equipment and instrumentation to support administration, teaching, research and other scholarly activities. Equipment should be up-to-date and well maintained. 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.

2.5.4. Facilities for pharmacy practice experiences

To support 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 healthcare professionals.

2.5.5. Library and learning/educational resources

The school should ensure access for all faculty, preceptors, and students to a library and other learning/educational resources that are sufficient to support the professional degree program and to provide for research and other scholarly activities in accordance with the school's mission and goals. The school should fully incorporate and use these resources in the teaching and learning processes. In this regard, the school should provide organized programs to teach faculty, preceptors, and students the effective and efficient use of the library and other learning/educational resources. To foster improvement, student, preceptor, and faculty opinions should be sought and evaluated regarding the adequacy of and access to library and learning/educational resources.

3. Process

3.1.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, faculty, staff, preceptors, students, alumni and other stakeholders as needed. The plan should have the support of the university administration, where applicable. The plan should be based on an examination of present and projected environmental, 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 define measurable outcomes and the processes to assess them; establish achievable timelines; identify the resources that need to be allocated; designate responsibilities to the appropriate person or group; and establish mechanisms for ongoing monitoring and reporting of progress.

3.2. Enrollment management

The number of student enrolled in the program should be managed in alignment with available physical, financial, faculty, staff, practice site, preceptor, student services and other administrative resources.

3.3. Evaluation and assessment

The school should establish and implement an evaluation plan or ongoing comprehensive system of evaluation that assesses achievement of the mission, goals and objectives. The evaluation should measure the extent to which the desired outcomes of the professional degree program (including assessments of student learning and evaluation of the effectiveness of the curriculum, which are covered in more detail in Paragraph 1.2.1) are being achieved. Likewise, the extent to which the desired outcomes of research and other scholarly activities, service, and pharmacy practice programs are being achieved should be measured. Assessment and evaluation activities should involve a broad range of stakeholders – both internal and external to the school – such as faculty, preceptors, students, alumni, regulators, employers, and consumers. Not only should the performance of students in the program be assessed and evaluated but efforts should also be made to evaluate the performance of graduates once in practice, including their professionalism, leadership and effectiveness as agents of change in the profession. The school should use the analysis of process and outcome measures for continuous development and improvement of the school and professional degree program.

The evaluation plan should describe the process and outcome assessments 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; and 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 assessments

employed in the evaluation plan or system should include defined formative and summative measures.[h]

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 program. Admission materials should clearly state the pre-requisites for admission to the program (such as prior education, training or experience, knowledge, skills, or attitudes), academic expectations for the program, and professional standards for graduation. The school should have the final responsibility for enrollment and selection 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 tutorial support, faculty advising and remediation programs 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 have the greatest potential for academic success in the professional degree program, 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 should have a person(s) responsible for the oversight and coordination of student services. Responsibilities could include student recruitment, orientation, provision of program information, financial aid counseling (where applicable), academic and career counseling, and access to healthcare 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 program, including any disclosures required by the agency responsible for the quality assurance of the program.

[h] A formative assessment measure is one taken before the activity or program is completed or repeated; an example would be a student's midpoint grade in a course. Formative assessments should allow for corrective actions. A summative assessment measure is one taken at the conclusion of an activity or program; an example would be a student's final grade in a course. Summative assessments help define the degree to which outcomes have been attained.

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/faculty 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 program Director or other administrative leaders, and exit interviews should be systematically employed to obtain student perspectives on faculty, curriculum, student services, and other aspects of the professional degree program. The assessment data so obtained should be systematically analyzed, interpreted, and used to improve all aspects of the program. The school should share with students the aggregate results and outcomes of their participation in program evaluation and improvement.

3.7. Curricular development and improvement

The school's faculty 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 1.1) and be developed with attention to sequencing, reinforcement, integration and application of content, and the selection of appropriate teaching and learning methods and assessments. Instruction should be coordinated across school organizational/departmental lines and faculty 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.

Ideally, the curriculum should incorporate both required and elective[i] courses and practice experiences. The standard should specify the minimum number of academic years, hours or credits for the professional degree program. 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 healthcare, 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, avoiding curricular overload, dilution of focus and insufficient depth of coverage for essential components of the curriculum.

[i] Elective courses or experiences are those that may be selected by the student from a range of (non-required) options offered by the school

3.8. Teaching and learning methodologies

Different educational methodologies are required to support the achievement of the different competencies (knowledge, skills, attitudes, behaviors, judgments, 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 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, meet the diverse learning needs of students, and enable students to transition from dependent to active, self-directed, lifelong learners. Ideally, the school should have access to educational experts from the institution or from other institutions for staff development. Where applicable, schools should have a policy on the use of external educational expertise to develop teaching and learning methods.

3.9. Student assessment methodologies

Assessment methodologies and criteria should be defined. These should be documented and evaluated against the educational outcomes they aim to measure. Assessment data can be used for curricular improvement to examine how the assessment methods promote learning and could be further developed to improve the alignment with educational outcomes. (See also Paragraph 1.2.1)

3.10. Faculty, staff and preceptor development and evaluation

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

The faculty and staff evaluation process should be annual, involve self-assessment, and include appropriate input from peers, supervisors, and students.

Section D: Glossary

Note: 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.

Accreditation: the process whereby an association or agency grants public recognition to an organization, site or program that meets certain established qualifications or standards, as determined through initial and periodic evaluations.

Active learning: a process or methodology whereby learners are actively engaged in the learning process, rather than "passively" absorbing lectures. Active learning involves reading, writing, discussion, and engagement in solving problems, analysis, synthesis, and evaluation.

Administrators: senior personnel with organizational and leadership positions in the school or institution.

Approval: official endorsement attesting to conformity to set standards and requirements. (Similar term: Recognition)

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 internally driven management strategy and approach that aims to constantly improve quality by: identifying current and future desired outcomes; adopting relatively continuous assessments and evaluations of performance and achievement; identifying potential causes of quality defects; taking appropriate action to avoid or correct deficiencies; implementing process improvements and innovations; and evaluating the impact of all interventions.

Competence: the ability to perform one's duties accurately and confidently, make correct judgments, and interact appropriately with patients and with colleagues. Professional competence is characterized by good problem-solving and decision-making abilities, a strong knowledge base, and the ability to apply knowledge and experience to diverse patient-care situations.

Competencies: the knowledge, skills, behaviours and attitudes that an individual accumulates, develops, and acquires through education, training, and work experience.

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

Continuing Professional Development (CPD): the responsibility of individual pharmacists for systematic maintenance, development and broadening of knowledge, skills and attitudes, to ensure continuing competence as a professional throughout their careers.

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

Criteria: (see **Standard**)

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

Faculty: the professors, teachers, and lecturers of a university, college or school.

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

Lifelong Learning: all learning that occurs during the career of a practitioner, (including structured educational programs 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 or institution, which guides its planning and activities.

Outcome: something that is achieved or results from an activity or series of activities

Practice Experience: a structured or semi-structured teaching and learning activity that takes place in a practice setting and involves real-life situations and inter-personal interactions. (Similar terms: Practice-based Learning, Experiential Education, Clinical Experience)

Practice Site: a healthcare delivery setting (such as a community pharmacy or hospital) in which students undertake practice experiences.

Preceptor: a practitioner who teaches (in a structured or semi-structured fashion) and supervises students in his or her professional practice setting. (Similar term: Practitioner-educator, Clinical Instructor)

Professionalism: The [demonstration of] ethics, attitudes, values, qualities, conduct, and behaviors that characterize a profession and are expected of its practitioners.

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

Quality Assurance: the systematic review of educational programmes to ensure that acceptable standards of education, scholarship 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 in that jurisdiction.

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

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

Staff: administrative and other support personnel in an office, organization, or institution.

Standard: something set up and established by authority as a rule for measure of quality; the basis for a decision or judgment of quality. (Similar terms: Criterion/Criteria)

Substantive change: A major or substantial change in a school or its educational program. Examples include: any change in the established mission or goals of the school or institution; the addition or deletion of courses, pathway or programs that represent a significant departure in either content or method of delivery; a substantial change in enrollment; a substantial change in the number of clock or credit hours required for successful completion of the program; a significant change in the length of the program; and the establishment of an additional geographic location at which the program is offered.

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