Nanjing Statements

Statements on Pharmacy and Pharmaceutical Sciences Education

2017

The Nanjing Statements on Pharmacy and Pharmaceutical Sciences Education describe the envisioned future for pharmaceutical education needed to enhance professional standards worldwide. The Nanjing Statements are intended for education providers, including Schools of Pharmacy and providers of Continuing Professional Development and Continuing Education. They are to be used for the purposes of self-assessment and monitoring (at country level or at the education provider level), identification of gaps and strategic planning, and improving the process of education.

The Nanjing Statements underwent extensive consultation and validation processes before, during and after the Global Conference.

Initial development of the Nanjing Statements

The Nanjing Statements on Pharmacy and Pharmaceutical Sciences Education were developed by FIP to guide the process of educational reform. The Global Conference Planning Committee set up a Working Group dedicated to the development of the original draft Nanjing Statements. This draft list of statements underwent extensive review by the entire Planning Committee, FIP Bureau, FIP*Ed*, FIP Boards, and expert groups to ensure completeness and a balanced representation of science and practice. A total of 80 statements grouped into eight clusters comprised the first draft.

Validation Phase I

The 80 statements were subject to public consultation before the Nanjing Conference. A total of 3,216 comments, suggestions and supporting remarks were received from 22 countries and territories. Comments offered included clarifications, suggestions for consolidation and wording changes. These comments were carefully considered by the Working Group during their revision of the draft, resulting in a set of 70 Statements.

Validation Phase II

The 70 statements underwent a second validation phase at the Global Conference in Nanjing. A live voting process by 36 delegations from 37 countries was arranged to evaluate the level of global consensus and drive a consensus-based validation approach by stakeholders from around the world. From the 70 statements voted, 64 reached more than 80% of agreement at the Global Conference. Six statements received fewer than 80% votes in agreement but all above 50%.

Validation Phase III

The Working Group on Statements conducted an online iteration within Country Delegates on the six statements which did not reach the 80% approval rate, to understand the reasoning and context leading to their decision at the Global Conference. Based on the post-Nanjing online consultation and the collective agreement of the country delegates, the Working Group on Statements kept one, consolidate four into two and eliminated one of the statements.

The final version consists of 67 statements adopted by consensus, representing the international expectations on what an effective pharmaceutical education system looks like to meet local needs. They are grouped into 8 clusters:

1) Shared Global Vision;
2) Professional Skills Mix;
3) Recruitment of Students;
4) Foundation Training and Leadership;
5) Experiential Education;
6) Resources and Academic Staff;
7) Quality Assurance;
8) and Continuing Professional Development.

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NANJING STATEMENTS ON PHARMACY AND PHARMACEUTICAL SCIENCES EDUCATION

Cluster 1:	Shared Global Vision
Description on the cluster:	*A shared global vision promotes workforce development in the context of pharmaceutical education and training. This global vision should help professional leadership bodies, educators and regulators in developing a national or regional vision based on the priorities and resources of the country or region, with the aim of developing new medicines and improving their use for better health.*
1.1	Workforce planning, at national and local levels, should include the roles of all relevant personnel, (e.g., pharmacy technicians/assistants, generalist pharmacists, specialists, advanced practitioners and pharmaceutical scientists) sufficient to meet local health needs as part of the health care system.
1.2	The education and training of pharmacists should have an underlying foundation in both the physical and biological sciences sufficient to prepare the student for current and future practice.
1.3	Schools[1] should teach students so they can attain competencies in professional values, ethics and professionalism by graduation in order to improve the responsible use of medicines, their discovery, development, manufacturing and distribution.
1.4	Schools should ensure that the needs and future trends in health care delivery, advancement in the profession, the pharmaceutical industry and education are taken into account to develop and update the curriculum.
1.5	Schools should promote the message that pharmacists are patient advocates and care providers who provide / facilitate efficient access to quality medicines with the goal of helping patients make the best use of their medicines.
1.6	Academic staff should add to the evidence that pharmacists can improve the responsible use of medicines to improve effectiveness, safety and efficient use of limited resources and should convey to the students the skills to achieve this.
1.7	All pharmacists and academic staff should be encouraged to participate in scholarly activity to generate new knowledge in their area of expertise.
1.8	Pharmacists should be champions for good health and wellness promotion, preventive medicine and holistic patient management. Pharmacists must undertake this through an economic, social, cultural and ethical perspective.

[1] – In this document, schools are defined as “Schools of Pharmacy and/or Pharmaceutical Sciences”

Cluster 2:	Professional Skills Mix
Description on the cluster:	*Pharmacists in all settings and pharmaceutical scientists need competence, skills, knowledge and attitudes to meet the needs of the public and interact with other health care professionals.*
2.1	The proper balance of science and practice should be established and taught: biomedical sciences, including pathophysiology, pharmacology and pharmacotherapy, should be distributed throughout the curriculum and should be taught in the context of patients and medicines.
2.2	Aspects of pharmaceutical chemistry, pharmaceutical technology and pharmaceutical analysis should be included in the curriculum to present the processes related to the development, production and registration of medicinal products. Students should be taught both basic pharmaceutical sciences and the use of medicines in the context of the patient care.
2.3	Pharmaceutical regulatory sciences should be included as part of the curriculum to provide knowledge and skills to students relevant to ensure the quality and safety of medicines and appropriate professional practice.
2.4	Besides the basic sciences, clinical, social and administrative sciences are fundamental when they support learning about patients and their use of medicines.
2.5	Training and education in ethical competence should be explicitly described as a core competency and as part of the professionalism of the pharmacist in scientific and clinical practice.
2.6	Students must develop the knowledge and skills to critically assess scientific evidence, including that which is applicable to patient care and population health.
2.7	Graduate education and training for the pharmaceutical workforce should include opportunities for cross-disciplinary learning.
2.8	Professional communication, documentation, lifelong learning and critical thinking should be core competencies of pharmacists and pharmaceutical scientists.
2.9	Students should have the ability and opportunity to learn to apply the scientific knowledge that is taught in the classroom in any field within the profession.
2.10	Pharmaceutical science courses will have a laboratory component to enhance students' scientific skills.
2.11	Pharmacists should learn to work collaboratively with other health care professionals and scientists in medical, scientific and social fields.

Cluster 3:	Recruitment of Students
Description on the cluster:	*Recruiting students who have a profile that fits the requirements of the school and is aligned with the profile of pharmacists desired for the country.*
3.1	Admissions practices should consider the value of a diverse student body reflecting regional population characteristics.
3.2	Students entering a school should have a strong scientific background, evidence of good academic performance and demonstrate good social and emotional skills.

Cluster 4:	Foundation Training and Leadership
Description on the cluster:	*Foundation training includes the process of education and leadership development for students and new graduates in pharmacy and the pharmaceutical sciences with a priority on developing the next generation of clinical, scientific, academic and professional leaders.*
4.1	There is a common scientific core for both pharmacists and pharmaceutical scientists, but the context for learning and teaching is different.
4.2	Students should understand social determinants of health.
4.3	Clinical competency should be assessed at relevant stages and assessment of student learning has to determine the extent to which students can effectively apply the knowledge taught in practice.
4.4	Assessment of student learning should include an ability for independent and self-directed learning that is necessary for continuing professional development after graduation.
4.5	Pharmaceutical scientists and pharmacists should gain skills in interpersonal communication and teamwork.
4.6	Schools should prepare students to be future mentors, supervisors, preceptors and leaders. This includes promoting a culture of peer support and knowledge sharing among students and encouraging students to mentor younger students.

Cluster 5:	Experiential Education
Description on the cluster:	*Experiential education programmes are where students incrementally develop their pharmacy practice and science skills in a wide variety of real-life settings.*
5.1	Experiential education should foster development of critical thinking and problem solving processes relative to drug discovery and medicines use.
5.2	Students should have the opportunity to reflect on the clinical learning experience through patient case presentations, and development and discussions of patient notes/pharmaceutical care plans.
5.3	Pharmacy students should participate in direct patient care experiences in hospital and community practice settings and in other practice experiences defined by local needs for pharmacists.
5.4	Students should be provided with supervised laboratory and clinical experience throughout the curriculum, including demonstrations and simulations.
5.5	Students should have the opportunity to learn to apply the clinical and pharmaceutical knowledge that is taught in the classroom in practical settings by working under the supervision of a faculty member or volunteer preceptor with patients and other healthcare professionals and with other scientists.
5.6	Students should have the opportunity to participate in internships / rotations with appropriate supervision and guidance, based on mutually determined learning objectives.
5.7	Students should have opportunities to learn in a wide array of practice environments, including caring for a diverse group of patients in various cultural and health state environments.
5.8	Non-traditional settings (e.g., regulatory, industrial, non-governmental organisations) are appropriate environments for selective experiential education internships/ rotations.
5.9	The culture of risk assessment, risk management and patient safety should be communicated clearly as an objective for a pharmacist when practising in different settings.
5.10	Students should demonstrate the ability and the right attitude to follow confidentiality policies.
5.11	Preceptors should be provided with opportunities to contribute to curricular decision-making, assessment and strategic activities.

Cluster 6:	Resources and Academic Staff
Description on the cluster:	*Resources and academic staff refer to equipment, finances, technology and human resources needed to properly prepare pharmacists and pharmaceutical scientists.*
6.1	Schools should allocate resources to demonstrate opportunities and disciplines available to both pharmacists and pharmaceutical scientists.
6.2	Financial resources (public funding, contributions from students and other sources) should enable the objectives of pharmaceutical education and training to be met.
6.3	The facilities and equipment for practice and science laboratory work should be up to date, in good condition, and in sufficient quantity to allow learners to benefit from practical learning.
6.4	Required educational resources and supporting technologies should be available to students in the school.
6.5	A safe environment should be provided for faculty staff and learners.
6.6	Academic staff should have academic or professional experience that supports their main area of teaching and research.
6.7	Academic staff should demonstrate active participation in sharing their knowledge and promoting collaboration with colleagues in their field (and other fields) at a national and international level.
6.8	The teaching performance of academic staff should be taken into consideration for their academic advancement.
6.9	Academic staff should demonstrate that they continuously update their teaching material so as to ensure relevance to contemporary aspects and support future developments.
6.10	Active learning techniques should be used in the classroom by academic staff.
6.11	All academic staff should engage in continuing professional development that is relevant to their work and responsibilities.
6.12	Academic staff at schools should collaborate with preceptors and experiential learning sites to assure quality learning.
6.13	All academic staff should have opportunities to contribute to curricular decision-making.
6.14	The school should support and promote the academic staff, preceptors, students and administrators to engage in professional activities with other health sectors.
6.15	The school should support and promote the participation of academic staff, preceptors, students and administrators in national and international activities of pharmacy and related experiences.

Cluster 7:	Quality Assurance
Description on the cluster:	*Quality assurance refers to the key aspects and mechanisms to identify opportunities for and make improvement in pharmacy and pharmaceutical sciences education to ensure a good, sustainable performance and suitable competencies of the future workforce.*
7.1	A quality improvement programme should be in place at the school and university, and examples of specific improvement should be demonstrated periodically.
7.2	Metrics should exist to measure, monitor, manage and improve the quality of the education and training provided.
7.3	Quality metrics should include feedback from students and new graduates, faculty, preceptors and key external stakeholders, such as employers and professional bodies.
7.4	Policies and procedures support regular review of the curriculum and allow developments in the curriculum to take place in a timely manner so as to keep up with the changes in the profession, technology and society.
7.5	The pharmacy and pharmaceutical scientist degree programmes should be offered at a university level and all the experiential components (placements) in clinical, industrial and institutional settings are undertaken under the supervision of the school.
7.6	Competencies should be assessed throughout the curriculum, not just at the end of it, and before the internship period.
7.7	A formal system of quality assurance, administered by a government or an independent agency approved by the government, should be in place and required for all schools.
7.8	The accreditation system should use published standards that have been developed and adopted with broad stakeholder involvement.
7.9	The accreditation system should use policies and procedures that ensure: evaluation by appropriately qualified and experienced peers; absence of conflict of interest; confidentiality; and fair and consistent application of standards.
7.10	Quality improvement should always include a clear process for handling student concerns/ issues/complaints that is transparent so that students are informed of the progress and outcome of any concern that is raised.

Cluster 8:	Continuing Professional Development
Description on the cluster:	*Continuing professional development (CPD) refers to building on previous education as a pharmacist and pharmaceutical scientist.*
8.1	CPD should apply both to those in the regulated professional practice and to those working in unregulated professional practice, such as academia and the pharmaceutical sciences.
8.2	All members of the pharmaceutical workforce should accept a responsibility to manage their own CPD.
8.3	Promotion of CPD should begin with students at the start of their education.
8.4	Schools should support CPD for graduated professionals to prepare them for advanced practice roles.

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