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NEW DIMENSIONS OF PHARMACY PRACTICE

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ABSTRACT

The overarching message of this review is that there is an important and rewarding professional role for pharmacists beyond pharmaceutical product supply and management. The pharmaceutical product should be seen not as an end in itself as often emphasized in pharmaceutical education and practice, but rather as a means to an end. Where medicines are used for the greatest possible benefit of each individual patient and of society as a whole, this will result in improvements in health as well as cost savings. This review focused on role of good pharmacy practice in different contexts. New pharmacists should have the knowledge and skills needed to take up their new role and responsibilities and to function as collaborative members of the health care team.

Keywords: Good Pharmacy Practice, Role of Pharmacists, Management.

INTRODUCTION

The practice of pharmaceutical care is new, in contrast to what pharmacists have been doing for years. Because pharmacists often fail to assume responsibility for this care, they may not adequately document, monitor and review the care given. Accepting such responsibility is essential to the practice of pharmaceutical care. In order to fulfill this obligation, the pharmacist needs to be able to assume many different functions. The concept of the seven-star pharmacist, introduced by WHO and taken up by FIP in 2000 in its policy statement on Good Pharmacy Education Practice, sees the pharmacist as a caregiver, communicator, decision-maker, teacher, life-long learner, leader and manager [1].

In developing and industrialized countries alike, efforts to provide health care, including pharmaceutical care, are facing new challenges. These include the rising costs of health care, limited financial resources, a shortage of human resources in the health care sector, inefficient health systems, the huge burden of disease, and the changing social, technological, economic and political environment which most countries face. While globalization has brought countries closer together in trade of products and services and in recognition of academic degrees and diplomas, for example, it has led to rapid changes in the health care environment and to new complexities due to increased travel and migration [2].

Access to medicines of assured quality remains a major concern worldwide. One third of the world's population do not yet have regular access to essential medicines. For many people, the affordability of medicines is a major constraint. Those hardest hit are patients in developing and transitional economies, where 50%–90% of medicines purchased are paid for out-of-pocket. The burden falls most heavily on the poor, who are not adequately protected either by current policies or by health insurance. The logistical aspects of distribution often seen as the pharmacist's traditional role, especially in health institutions represent another challenge. Moreover, in many developing countries 10%–20% of sampled medicines fail quality control tests [3].

A Statement on Ensuring the Quality and the Safety of Medicinal Products to Protect the Patient was jointly signed by FIP and the International Federation of Pharmaceutical Manufacturers Associations (IFPMA) in 2000. Its common goal is to protect the well-being of patients in all parts of the world by ensuring that all medicinal products are of good quality and proven safety and efficacy. Both the pharmaceutical industry and the

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pharmaceutical profession also recognized the need for a regulatory and marketing environment which encourages investment in new innovative medicines and allows their timely introduction and availability to patients worldwide. Another major challenge is ensuring that medicines are used rationally. This requires that patients receive medications appropriate to their clinical needs, in doses that meet their own individual requirements for an adequate period of time, and at the lowest cost to them and their community [4].

However, rational use of medicines remains the exception rather than the rule. For those people who do receive medicines, more than half of all prescriptions are incorrect and more than half of the people involved fail to take them correctly. In addition, there is growing concern at the increase in the global spread of antimicrobial resistance, a major public health problem. A recent report by WHO4 revealed findings of up to 90% resistance to original first-line antibiotics such as ampicillin and cotrimoxazole for shigellosis, up to 70% resistance to penicillin for pneumonia and bacterial meningitis, up to 98% resistance to penicillin for gonorrhoea, and up to 70% resistance to both penicillins and cephalosporins for hospital-acquired *staphylococcus aureus* infections.

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Pharmaceutical care

The concept of pharmaceutical care also includes emotional commitment to the welfare of patients as individuals who require and deserve pharmacists' compassion, concern and trust. However, pharmacists often fail to accept responsibility for this extent of care. As a result, they may not adequately document, monitor and review the care given. Accepting such responsibility is essential to the practice of pharmaceutical care.

Pharmaceutical care can be tendered to individuals and populations. "Population-based pharmaceutical care" uses demographic and epidemiological data to establish formularies or medicine lists, develop and monitor pharmacy policies, develop and manage pharmacy networks, prepare and analyse reports of drug utilization/costs, conduct drug utilization reviews and educate providers on medicine policies and procedures. Without individual pharmaceutical care, however, no system can manage drug therapy and monitor medicine-related illness effectively. The population-based functions identified above need to occur either before or after patients are seen and provide valuable information, but cannot replace patient-specific services while patients are being seen. Medicine related illnesses occur frequently even with medicines that are in a system's formulary or medicines list, since these medicines are often prescribed, administered or used inappropriately. Patients need pharmacists' services at the time they are receiving care. Successful pharmacotherapy is specific for each patient. It includes individual drug therapy decisions, reaching concordance (an agreement between the patient and the health care provider on the therapeutic outcome and how it may be achieved), and critical patient monitoring activities. For each individual patient's drug treatment, the pharmacist develops a care plan together with the patient. Patients can then contribute to successful outcomes by taking part of the responsibility for their own care and not relying solely on caregivers, in the former paternalistic style.

Evidence-based pharmacy

In an increasingly complex health care environment, it has become difficult to compare the effectiveness of different treatments. Health care interventions can no longer be based on opinion or individual experience alone. Scientific evidence, built up from good quality research, is used as a guide, and adapted to each individual patient's circumstances.

Meeting patients' needs

In patient-centred health care, the first challenges are to identify and meet the changing needs of patients. Pharmacists need to ensure that people can access medicines or pharmaceutical advice easily and, as far as possible, in a way and at a time and place of their own choosing. They can empower patients by engaging them in dialogue to communicate knowledge which enables them to manage their own health and treatment. Although patients are exposed to a wide range of information from package inserts, promotional materials, advertising in the media and through the Internet, this information is not always accurate or complete. The pharmacist can help informed patients to become accurately informed patients by offering unbiased relevant evidence-based information and by pointing to reliable sources. Counselling on disease prevention and lifestyle modification will promote public health, while shared decision-making on how to take medicines through a concordant approach will optimize health outcomes, reduce the number of medicine-related adverse events, cut the amount of medicine which is wasted and improve adherence tomedical treatment.

A new contractual framework for community pharmacy is being implemented that is key to delivering the vision of primary care in the future. This new community pharmacy contract will enable reorientation of services to meet patient expectations and maximize pharmacist potential to deploy their skills to better effect. The pharmacy contract provides for categorization into essential, advanced and enhanced pharmacy services with a focus on quality and outcome in all cases [5].

Chronic patient care – HIV/AIDS

Throughout history the world has never faced a health challenge like the HIV/AIDS pandemic.In order to

respond adequately, health systems, especially in resource-limited settings, are undergoing a shift in health care provision from acute health care services to chronic patient care. With an estimated 40 million people living with HIV worldwide and 3 million people dying of AIDS in 2004 alone, the HIV/AIDS pandemic represents an extraordinary human, human rights and humanitarian crisis and a tragedy of immense social, economic and public health impact. In 2004, the world's nursing, medical and pharmacy leaders issued a resolution stating that all health professionals should commit the necessary funds and resources to rise to the challenge of HIV/AIDS. Health professionals, including pharmacists, should also act as strong advocates and social leaders [6,7].

The availability of financial resources for the provision of antiretroviral therapy (ART) in resource-limited settings is steadily increasing. The United Nations Declaration of Commitment on HIV/AIDS and the World Health Organization's announcement declaring HIV/AIDS to be a global public health emergency underscore the urgent need for scaling up ART in resource-limited settings. In 2003, WHO made a commitment to treat 3 million people by the end of 2005. More recently, in July 2005 leaders of the G-8 nations committed to the goal of scaling up access to HIV/AIDS treatment, care and prevention services with a view to moving towards universal access to ART by 2010 [8,9].

Human resources are the most critical component of health systems and delivery. However, in many of the communities where ART is urgently needed, there is a significant shortage of skilled human resources to provide routine health care. People with many different skills (including management, administration, supply management, clinical care and community based care) are needed for the safe and effective delivery of ART. Successful outcomes in delivering ART have relied on strategies to reduce dependence on highly skilled health professionals by sharing aspects of patient care and follow-up among different cadres of health care workers, the community and family members. To address the lack of highly skilled human resources, existing skills should be upgraded to cope with the demands of delivering ART and care services. Strategies will depend on health sector policies and the chosen service delivery approach.

One of the key health professionals that must be mobilized and involved is the pharmacist. Pre-service and ongoing training of pharmacists in providing HIV/AIDS prevention, care and treatment is essential. The content and delivery of training for pharmacists will depend on their allocated roles and responsibilities. Since pharmacists' knowledge, attitudes and behaviour influence the way in which HIV care, treatment and prevention services are delivered and used, adherence to chronic HIV/AIDS care and treatment is one of the key areas where pharmacists need to be involved.

Self-medication

The Professional Role of the Pharmacist was adopted by the FIP Council. It sets out FIP's policies regarding the responsibilities of pharmacists concerning advice on self-medication. Areas covered by the statement include pharmacy premises, sales promotion, advice on the treatment of symptoms, specific requests for medicines (i.e., by name), referral notes and confidentiality. This Statement was followed in 1999 by a joint Declaration on Responsible Self-Medication which was signed by the FIP Council together with the World Self-Medication Industry (WSMI). This provides guidance to pharmacists, patients and the industry regarding the safe and effective use of non-prescription medicines.

Quality assurance of pharmaceutical care services

A basic concept which should underlie all health care services and pharmacy practice is that of assuring the quality of patient care activities. Donabedian defined the three elements of quality assurance in health care as being structure, process and outcome. The processes used in the various settings of pharmacy practice all comply with the same principles, although they may differ in application. Quality assurance processes of pharmaceutical care services serve to contribute towards better patient outcomes. Definitions of the quality assurance of pharmaceutical care should encompass both technical standards and patients' expectations [10].

Quality assurance can also be defined as "all activities that contribute to defining, designing, assessing, monitoring, and improving the quality of health care". These activities can be performed as part of the accreditation of pharmacies, supervision of pharmacy health workers, or other efforts to improve the performance and the quality of health services. The Quality Assurance Project of the Center for Human Sciences in Bethesda, USA, lists four core principles which have emerged to guide quality assurance in health care:

1. Focus on the client/patient
2. Focus on systems and processes
3. Focus on measurement
4. Focus on teamwork

The implementation and practice of pharmaceutical care must be supported and improved by measuring, assessing and improving pharmacy practice activities, utilizing the conceptual framework of continuous quality improvement. A key lesson is that in many cases quality of pharmacy services can be improved by making changes to the health care system or pharmacy

system without necessarily increasing resources. Improving the processes of pharmacy practice not only creates better outcomes but also reduces cost through eliminating waste, unnecessary work and repetition of work already done. Thus quality improvement must address both the resources (structures) and activities carried out (processes) to ensure or improve the quality of pharmaceutical care (outcomes).

Clinical pharmacy

The term "clinical pharmacy" was coined to describe the work of pharmacists whose primary job is to interact with the health care team, interview and assess patients, make specific therapeutic recommendations, monitor patient responses to drug therapy and provide medicines information. Clinical pharmacists work primarily in hospitals and acute care settings and provide patient-oriented rather than product-oriented services.

Clinical pharmacy requires an expert knowledge of therapeutics, a good understanding of disease processes and knowledge of pharmaceutical products. In addition, clinical pharmacy requires strong communication skills with solid knowledge of the medical terminology, drug monitoring skills, provision of medicines information, therapeutic planning skills and the ability to assess and interpret physical and laboratory findings. Pharmacokinetic dosing and monitoring is a special skill and service provided by clinical pharmacists. Clinical pharmacists are often active members of the medical team and accompany ward rounds to contribute to bedside therapeutic discussions. The impact of clinical pharmacy services has been well documented in in-patient settings, and to a lesser extent in ambulatory and community settings [11].

Pharmacovigilance

Medicines safety is another important issue. Because of intense competition among pharmaceutical manufacturers, products may be registered and marketed in many countries simultaneously. As a result, adverse effects may not always be readily identified and so are not monitored systematically. Pharmacovigilance is a structured process for the monitoring and detection of adverse drug reactions (ADRs) in a given context [12].

Data derived from sources such as Medicines Information, Toxicology and Pharmacovigilance Centres have great relevance and educational value in the management of the safety of medicines. Medicine-related problems, once detected, need to be assessed, analysed, followed up and communicated to regulatory authorities, health professionals and the public. Pharmacovigilance includes the dissemination of such information. In some cases, medicines may need to be recalled and withdrawn from a market, a process that entails concerted action by all those involved at any point in the medicines supply chain. Pharmacists have an important contribution to make to post-marketing surveillance and pharmacovigilance.

The value of professional pharmacist services

Through its impact on individual patients' state of health, pharmaceutical care improves the quality and cost-effectiveness of health care systems. Improvements at the micro-level impinge on the overall situation at the macro-level, i.e., communities benefit when individuals within them enjoy better health. Ultimately the population at large will also benefit as system-wide improvements occur. Pharmacists' services and involvement in patient-centred care have been associated with improved health and economic outcomes, a reduction in medicine-related adverse events, improved quality of life, and reduced morbidity and mortality. These accomplishments have been achieved through gradual expansion of traditional roles and, in some cases, through the emergence of collaborative drug therapy management programmes. Nonetheless, the potential for pharmacists to effect dramatic improvements in public health remains largely untapped.

A recent review investigated the effectiveness of professional pharmacist services in terms of consumer outcomes, and where possible, the economic benefits. Its key findings illustrate the value of a range of services, including continuity-of-care after hospital discharge and education to consumers and to health practitioners. Overall, this review demonstrates that there is considerable high quality evidence to support the value of professional pharmacy services in improving patient outcomes or medication use in the community setting [13,14].

The Pharmacy Practice Activity Classification (PPAC)

As pharmacists increasingly focus their practices on the provision of pharmaceutical care and expect to be compensated for pharmaceutical care services, the need for a consistent and broadly accepted classification of pharmacy practice activities becomes evident. Although many systems exist to record pharmacists' activities, until now the profession has lacked a widely accepted way to describe or document these activities in a common language. The Pharmacy Practice Activity Classification (PPAC) initiated by the American Pharmacists Association (APhA) provides a common language that, if used consistently, will yield comparable data among studies. This in turn can contribute to building databases for statistically sound determinations about pharmacists' patient centred activities and whether they improve patient outcomes and the use of resources. Such systems are already used by other health professions (e.g., medicine,

nursing). An important purpose of the PPAC is to provide a solid foundation to support systems for remuneration that can be used for billing.

The PPAC is focused primarily on activities of licensed, practicing pharmacists across the continuum of health care settings. The classification captures a range of activities from traditional dispensing to direct patient care services. It is recognized that pharmacists occupy other roles in the pharmaceutical industry, administration, regulatory agencies, professional associations, public health, academia that are not directly related to patient care. The benefits of consensus on a uniform classification system include: advancing the recognition of pharmaceutical care as a key component of pharmacy practice, leading to an understanding of the value of and need for compensation for the delivery of pharmaceutical care services [15].

The Pharmacy Practice Activity Classification
A. Ensuring appropriate therapy and outcomes
1. Ensuring appropriate pharmacotherapy
2. Ensuring patient's understanding/adherence to his or her treatment plan
3. Monitoring and reporting outcomes

B. Dispensing medications and devices
1. Processing the prescription or medicine order
2. Preparing the pharmaceutical product
3. Delivering the medication or device

C. Health promotion and disease prevention
1. Delivering clinical preventive services
2. Surveillance and reporting of public health issues
3. Promoting safe medication use in society

D. Health systems management
1. Managing the practice
2. Managing medications throughout the health system
3. Managing the use of medications within the health system
4. Participating in research activities
5. Engaging in interdisciplinary collaboration

The pharmacist as a member of the health care team

The health care team consists of the patient and all the health care professionals who have responsibility for patient care. This team needs to be well defined, and collaboration needs to be actively sought. Pharmacists have an important role to play in this team. They will need to adapt their knowledge, skills and attitudes to this new role, which integrates traditional pharmaceutical science with clinical aspects of patient care, clinical skills, management and communication skills, active collaboration with medical teams and solving of medicine-related problems.

If they are to be recognized as full members of the health care team, pharmacists will need to adopt the essential attitudes required by health professionals working in this area: visibility, responsibility, accessibility in a practice aimed at the general population, commitment to confidentiality and patient orientation. Pharmacists will need to be competent and possess both vision and a voice to fully integrate them into the health care team.

Pharmacy practice settings

The role of the pharmacist takes different forms in various parts of the world. The pharmacist's involvement with pharmaceuticals can be in research and development, formulation, manufacturing, quality assurance, licensing, marketing, distribution, storage, supply, information management, dispensing, monitoring or education. Supply and information management activities have been termed "pharmaceutical services" and continue to form the foundation of pharmacy practice.
Pharmacists practice in a wide variety of settings. These include community pharmacy (in retail and other health care settings), hospital pharmacy (in all types of hospital from small local hospitals to large teaching hospitals), the pharmaceutical industry and academia. In addition, pharmacists are involved in health service administration, in research, in international health and in nongovernmental organizations.

Levels of practice and decision-making

Pharmacy practice takes place at different levels. The ultimate aim of activities at all these levels is to benefit patients by improving and maintaining their health. Activities at individual patient level comprise all aspects of providing and managing a patient's drug therapy (i.e., pharmaceutical care, including clinical pharmacy services). At this level, decisions are made on issues of pharmaceutical care and triage (i.e., prioritization of care, patient follow-up and therapeutic outcome monitoring).

Some of the activities at the level of supply management in community and hospital pharmacy such as manufacture, compounding, procurement and distribution of medicines are seen as routine or "back office" activities and are not discussed. However, these activities remain important, as the availability of medicines of assured quality at affordable prices is a prerequisite for any pharmaceutical care. For official recognition and reimbursement for interventions in the health care system, pharmacists usually need to comply with a wide range of rules relating to health care. Important aspects include terminology, standards, documentation, responsibility and accountability.

At the level of an institution, such as a hospital, clinic, managed care organization or pharmacy, tools used for medicines selection include formularies, standard treatment guidelines and medicines utilization reviews. These tools are typically developed by Drug and

Therapeutics Committees or by National Essential Medicines Committees. The development process is no longer confined to the developing group, but involves professionals at all levels and is increasingly based on clinical evidence rather than isolated expert opinions. These tools should be accepted by individual health care providers and should be implemented.

At the system level (e.g., at national, federal, state or district level), planning, management, legislation, regulation and policy are the enabling environment in which any health care system develops and operates. The system level also includes standards of practice and mandates for pharmacy that are managed at national, federal, regional, state or district level depending on the country. National medicines policies have become an integral part of many countries' national health policies. At the international level, there are moves to harmonize approaches worldwide – an approach that warrants greater attention in view of the global reach of the pharmaceutical industry and pharmacy practice.

At community and population level, pharmaceutical practice comprises the activities which support the other levels (i.e., information, education and communication to promote public health, the provision of medicines information, research, dissemination of new information, education and training of staff, consumer groups, community-based organizations and health system researchers).

Health promotion, disease prevention and lifestyle modification are activities at community level that have a public health focus. Pharmacists can offer public health interventions more conveniently than other groups since they are easily accessible and recognized as experts in matters of health. Pharmacists are a trusted source of information and advice on health and medicines. However, they cannot operate in isolation and must accept joint responsibility with all health professionals to serve community and public health goals [16-18].

The seven-star pharmacist

To be effective health care team members, pharmacists need skills and attitudes enabling them to assume many different functions. The concept of the "seven-star pharmacist" was introduced by WHO and taken up by FIP in 2000 in its policy statement on Good Pharmacy Education Practice to cover these roles: caregiver, decision-maker, communicator, manager, life-long learner, teacher and leader [19].

***The roles of the pharmacist are described below and include the following functions*:**

Caregiver: Pharmacists provide caring services. They must view their practice as integrated and continuous with those of the health care system and other health professionals. Services must be of the highest quality.

Decision-maker: The appropriate, efficacious, safe and cost-effective use of resources (e.g., personnel, medicines, chemicals, equipment, procedures, practices) should be the foundation of the pharmacist's work. At the local and national levels, pharmacists play a role in setting medicines policy. Achieving this goal requires the ability to evaluate, synthesize data and information and decide upon the most appropriate course of action.

Communicator: The pharmacist is in an ideal position to provide a link between prescriber and patient, and to communicate information on health and medicines to the public. He or she must be knowledgeable and confident while interacting with other health professionals and the public. Communication involves verbal, non-verbal, listening and writing skills.

Manager: Pharmacists must be able to manage resources (human, physical and financial) and information effectively; they must also be comfortable being managed by others, whether by an employer or the manager/leader of a health care team. More and more, information and its related technology will provide challenges as pharmacists assume greater responsibility for sharing information about medicines and related products and ensuring their quality.

Life-long-learner: It is impossible to acquire in pharmacy school all the knowledge and experience needed to pursue a life-long career as a pharmacist. The concepts, principles and commitment to life-long learning must begin while attending pharmacy school and must be supported throughout the pharmacist's career. Pharmacists should learn how to keep their knowledge and skills up to date.

Teacher: The pharmacist has a responsibility to assist with the education and training of future generations of pharmacists and the public. Participating as a teacher not only imparts knowledge to others, it offers an opportunity for the practitioner to gain new knowledge and to fine-tune existing skills.

Leader: In multidisciplinary (e.g., team) caring situations or in areas where other health care providers are in short supply or non-existent the pharmacist is obligated to assume a leadership position in the overall welfare of the patient and the community. Leadership involves compassion and empathy as well as vision and the ability to make decisions, communicate, and manage effectively. A pharmacist whose leadership role is to be recognized must have vision and the ability to lead.

And the added function of:

Researcher: The pharmacist must be able to use the evidence base (e.g., scientific, pharmacy practice, health system) effectively in order to advice on the rational use of medicines in the health care team. By sharing and documenting experiences, the pharmacist can also contribute to the evidence base with the goal of optimizing patient care and outcomes. As a researcher, the pharmacist is able to increase the accessibility of unbiased health and medicines-related information to the public and other health care professionals.

A change in pharmacy education and a new learning approach

Pharmacists stand at the interface between research and development, manufacturer, prescriber, patient and the medicine itself. WHO has called for greater involvement of pharmacists in the general health care system and wider use of their broad academic background.

In its statement of policy, FIP says that the changes in the pharmacist's role must be reflected in the basic and continuing education of pharmacists, with a greater focus on student learning. The new paradigm for pharmacy requires that pharmacists are far more than experts in pharmaceutical chemistry and pharmaceutics. They have to understand and apply the principles behind all the activities necessary to manage drug therapy. In 1999, the European Association of Faculties of Pharmacy (EAFP) proposed a shift during the pharmacy study programme from laboratory-based sciences to practice and clinical sciences.

Pharmacy curricula have long been neglected at many learning institutions, which has helped perpetuate the undervalued status of pharmacists in the health care sector, particularly in developing countries. In traditional pharmacy curricula, the emphasis is often on the technical aspects of pharmacy, rather than on professional practice.

The forces behind the changes in pharmaceutical education are many and varied, and increasing in both number and intensity. The major economic and political forces affecting the health care system in most countries are also having an impact on the practice of pharmacy. As a result, radical changes are needed in pharmaceutical education. The role and function of pharmacists and pharmaceutical staff need to be reappraised and the educational outcomes of the evolving pharmacy curriculum should be clearly defined. The use of outcomes statements will help to drive curriculum development. Educational outcomes can be used as a new organizing framework that integrates science, professional attributes, interprofessional practice, and professionalism across new major headings of pharmaceutical care, systems management, and public health, as they are in the practice of pharmacy. Education outcomes should include the following:

- Pharmaceutical care with provision of both patient-centred care and population-centred care
- Systems management of resources (human, medical, informational and technological) and medication use systems
- Public health assuring effective and quality health and prevention services and developing public health policy.

The educational change will require not only extensive curriculum revision and restructuring, but also a major commitment to faculty development to prepare teachers to educate pharmacists in a different way. The type and depth of didactic and experiential material to be included will be different. The amount and allocation of educational resources will have to change. Schools and colleges of pharmacy should create, establish and evaluate practice models that could be used within evolving health care environments. Courses should take into consideration the needs of the target audience, learning outcomes, course content, teaching methods, learning resources, participant assessment, course evaluation, and quality assurance when being introduced into the curriculum.

In recent years, there has been a shift in health sciences education towards a problem based learning approach. Problem-based pharmacy curricula have been introduced at universities in a number of countries, including the UK, Australia, the Netherlands and South Africa. In some countries, outcome competencies (Unit Standards) have been defined against which practice may be compared. These standards are used to assess health professionals' knowledge and skills in pre-registration examinations or in continuing professional development (CPD). CPD, including research and reflection on the outcomes of actions, contributes to the maintenance of life-long competency to practice. In its statement on CPD, FIP establishes a framework within which pharmacists can meet this obligation [20-22].

These are times of enormous change in health care and in the pharmacy profession. At no time in its recent history has the profession been faced with such challenges and opportunities. While the profession should articulate pharmaceutical care as the major contribution it has to offer to society, pharmaceutical education needs to develop the outcomes, competencies, content and process of the educational curriculum that is required to prepare students to render pharmaceutical care at the entry points in the health care system.

CONCLUSION

Pharmacists are in an excellent position to meet the need for professionals to assure the safe and effective

use of medicines. To do so, pharmacists must assume greater responsibility than they currently do for the management of drug therapies for the patients they serve. This responsibility goes well beyond the traditional dispensing activities that have long been the mainstay of pharmacy practice. While supervision of the routine medicines distribution process must remain the responsibility of pharmacists, their direct involvement in medicine distribution will decrease, since these routine activities will be handled by qualified pharmacy assistants. However, the number of supervisory activities will increase. Thus, pharmacists' responsibilities must be expanded to include monitoring therapeutic progress, consulting with prescribers, and collaborating with other health care practitioners on behalf of patients. The movement towards pharmaceutical care is a critical factor in this process.

Pharmacy is practiced across a range of both traditional and new settings and levels of decision-making. As members of the health care team, pharmacists need to be able to assume many different functions. The concept of the seven-star pharmacist was introduced by WHO and FIP to describe these roles. Pharmacists have the potential to improve therapeutic outcomes and patients' quality of life within available resources, and must position themselves appropriately within the health care system. Pharmaceutical education has a corresponding responsibility to produce graduates who are competent to deliver pharmaceutical care. Outcome competencies contribute to quality assurance by providing readily accessible standards against which practice may be measured.

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