Hospital Pharmacy Practice and the Way Forward for Pharmacy Education in Thailand

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COUNTRY BACKGROUND AND IMPORTANT HEALTH STATISTICS

Thailand is located in the centre of the Indo-Chinese peninsula; its land area of about 514 000 km^2 makes it the third largest country in Southeast Asia, after Indonesia and Myanmar.[1] The country is geographically and administratively separated into 5 regions and 77 provinces. In 2017, the population was estimated at about 66.23 million.[1] The age structure has undergone dramatic changes within the past 50 years. In particular, it has been estimated that the proportion of the population 60 years or older will increase substantially, from 11.9% in mid-2017 to 15.9% in 2020.[1]

According to the World Health Organization,[2] ischemic heart disease was the leading cause of death in Thailand in 2010, followed by stroke, lower respiratory infection, and road injury. Cardiovascular diseases, diabetes, and cancer were major causes of premature mortality, reducing healthy life years through increased likelihood of disability.[2]

Total health expenditure has been increasing over time. In 2010, it was estimated at about US$13 000 million (at the exchange rate of 32 Thai baht per US$1), and in 2012, it accounted for about US$15 639 million (at the exchange rate of 30.47 Thai baht per US$1).[3] These figures represented about 4% of the gross domestic product in their respective years.[3] Hospitals are the most important group of service providers of Thailand, consuming 68.3% of total health expenditure in 2012.[3] The overall value of domestic drug consumption was US$4518 million, of which anti-infective agents made up the largest share.[3]

OVERVIEW OF THE HEALTH CARE SYSTEM

The Ministry of Public Health (MoPH) plays an important role in the management of the Thai health care system. Under the central government, the MoPH provides policies and services that are grounded in medical ethics, with a view to promoting greater equality of access to health services across population subgroups in Thailand. Services provided by the MoPH include health promotion, disease prevention, medical care, and rehabilitation at all levels (primary, secondary, and tertiary).

Thailand has 3 main public health insurance schemes: the Civil Servant Medical Benefit Scheme, the Social Security Scheme, and the Universal Coverage Scheme. The last of these, initiated in 2001, was originally known as the "30 baht for all diseases" scheme, where the term "30 baht" referred to the amount of copayment that beneficiaries were required to contribute upon visiting a health facility.

The 3 schemes differ in terms of their management, sources of financing, and beneficiaries. The Civil Servant Medical Benefit Scheme covers government officers and their families, which make up about 8% of the population.[4] The scheme is operated and monitored by the Comptroller General under the Ministry of Finance. The financing source is general taxes, with an annual budget of about US$400 per person.[4] The Social Security Scheme covers employees in the private sector, which represent 16% of the population.[4] Managed by the Social Security Office (which is affiliated with the Ministry of Labor), the scheme is financed through contributions from employers, employees, and the government. The annual budget under the Social Security Scheme is about US$106 per person.[4] Finally, the Universal Coverage Scheme covers individuals who are not covered by either of the other 2 schemes. The number of Universal Coverage Scheme beneficiaries today stands at about 48 million (75% of the population). The National Health Security Office administers the scheme, which is financed through general tax revenue, with an annual budget of about US$84 per person.[4] Additionally, Thailand has private health insurance.

Implementation of the Universal Coverage Scheme has increased access to health care, particularly among people living

in poverty, promoting health security and health equity, as well as decreasing the financial burden for patients.[5] Since its inception, efforts and investments in health information systems at the national and institutional levels have increased. The Health Information System Development Office and the Health System Research Institute have been established to produce a standard set of health data and to develop health information system indicators. Also, the National Health Security Office (which manages the Universal Coverage Scheme) has invested in an extensive information system at the national level; its purposes are to better orchestrate the delivery of integrated health care activities and to make efficient use of health and drug information, which would subsequently lead to improvements in the claims and reimbursement processes, the central procurement system, delivery of integrated primary care, and provincial administrative health budgeting.[6,7]

PHARMACY PRACTICE IN THAILAND

All pharmacists in Thailand undertake the same basic undergraduate training before selecting the sector in which they will work after graduation. According to a study by the Pharmacy Education Consortium of Thailand,[8] more than half of the pharmacy workforce (68%) is employed in pharmacy service settings, including public hospitals (33%), private hospitals (7%), and drugstores (28%). An additional 22% work in manufacturing and marketing (16%), consumer protection (4%), and education (2%). The remaining 10% of pharmacy graduates work in careers outside pharmacy. This article focuses primarily on hospital pharmacy practice.

Hospital Pharmacy Practice

The practice of hospital pharmacy in Thailand has evolved over time. Before 1990, hospital pharmacy practice mainly involved drug procurement, distribution, and dispensing of pharmaceutical products to hospital inpatients and outpatients. In the early 1990s, the concepts of clinical pharmacy and pharmaceutical care were introduced to Thai hospital pharmacists. Consistent with the vision of the Pharmacy Council of Thailand, which states that "The philosophy of pharmaceutical care is the ultimate goal of professional achievement", the MoPH and schools of pharmacy from 4 regional universities established a collaborative project, with the goals of engaging hospital pharmacists with pharmaceutical care concepts and stimulating the expansion of their practice to involve more patient care.[4] The project provided extensive retraining, and hospital pharmacists who chose to participate were required to attend a 5-day workshop to gain pharmacotherapy knowledge and pharmaceutical care skills. The workshop content included pharmacokinetics, therapeutic drug monitoring, adverse drug reactions, medication-use evaluation, and research methodology. Pharmacy continuing education credits approved by the Pharmacy Council of Thailand could also be earned by attending the workshop. The focus of hospital pharmacy practice in the country has since shifted from pharmaceutical products to patient care.[7]

The quality of pharmaceutical care in Thailand has been further strengthened through health service development plans and implementation of a rational drug-use system by public hospitals under the supervision of the MoPH. In addition, the Healthcare Accreditation Institute was set up in 1999.[9] It serves as the main organization to promote quality assurance of hospitals in the country, thereby improving the quality of health services. All operations within a given hospital, including the medication system and management, must comply with the standards set out by the Healthcare Accreditation Institute, and all hospitals are required to undergo assessment and accreditation.[9] The accreditation requirement applies also to secondary and tertiary public hospitals. Given that these hospitals typically have a large catchment area to serve and a wide range of services to provide, their pharmacy management systems are likely to be detailed and complicated, requiring knowledgeable human resources and an efficient operation system.[9]

Pharmacy departments constitute an integral component of hospitals. In public hospitals in particular, pharmacy departments are responsible for pharmaceutical services and are partially responsible for the outcome of health services and the overall treatment of patients.[10] They are also required to maintain hospital standards.[10] The functions of pharmacy departments in Thailand include pharmaceutical management (drug procurement and inventory), drug dispensing, drug preparation (such as extemporaneous preparations and IV admixture), consumer protection (concerning safe use of all health-related products), drug information services and pharmaceutical care. Thai public hospitals have the autonomy to modify the structure of their pharmacy departments in accordance with the context in which they operate. However, the MoPH requires that the drug management system within each hospital be subject to supervision by a cross-functional, multidisciplinary team known as the Pharmacy and Therapeutics Committee, comprising doctors, pharmacists, nurses, and hospital administrators.[10]

The drug distribution system[10] within a public hospital comprises various activities. First, the system involves drug procurement, whereby the procurement unit purchases drugs from pharmaceutical companies. Because all public hospitals provide services to beneficiaries of public health insurance schemes (as explained above), drug procurement is accomplished through an e-claim system set up by public health insurance agencies for the purpose of compensation disbursement. Only drugs specified in the National List of Essential Medicines can be procured through the system; this list contains a broad range of drugs. Protected under the doctrines of national health security and social security,[10] patients have the right to access all drugs on the list,

which allows them to obtain expensive medicines that would be otherwise unaffordable.

As a second stage in the drug distribution system, purchased drugs are stored in the main stockroom and sub-stockrooms and subsequently distributed to the dispensing unit. Some hospitals set up control systems for drugs for which access needs to be limited and closely monitored, including narcotics and psychoactive substances.[10] The control system involves documenting disbursement of these drugs on a monthly basis and filing the reports with the Thai Food and Drug Administration.

Finally, the drug distribution system includes drug dispensing. In the outpatient drug distribution system,[9,10] hospital pharmacists perform a general check for the availability of drugs and identify drug-related problems during the dispensing process. In cases where drug-related problems exist for a given patient, pharmacists work with a multiprofessional health care team (consisting of pharmacists themselves, along with doctors and nurses within the hospital) to come up with potential solutions before giving drugs and advice to the patient. Monitoring and surveillance systems are put in place for the use of high-risk drugs. In the inpatient drug distribution system,[10] the principle whereby each hospital ward maintains sufficient stock for 1 day of operation is applied. The Pharmacy and Therapeutics Committee determines the types of drugs and the quantity of each drug to be kept in stock, enforcing a drug monitoring system as well as a risk identification and management system. The goals are to ensure maximum efficiency and safety of drug usage and to reduce drug and health expenses for patients.

FACTORS AFFECTING HOSPITAL PHARMACY PRACTICE AND ROLES OF HOSPITAL PHARMACISTS

Changes in hospital pharmacy practice and roles of hospital pharmacists in Thailand can be attributed to many factors. First, the establishment of the Healthcare Accreditation Institute in 1999 has played a crucial role in upgrading the quality of health care in Thailand, leading to the institutionalization and implementation of standards for hospital pharmacy. More specifically, since 2002, the Healthcare Accreditation Institute has promoted and supported the standardization of pharmacy services, such as extemporaneous preparations (e.g., parenteral nutrition and cytotoxic IV admixtures) and the improvement of pharmaceutical care services for both outpatients and inpatients.[9] The Institute has also encouraged formal collaboration between pharmacists and other health care professionals in hospital settings, which has resulted in a substantial decrease in adverse events related to medications.[10]

Second, the MoPH has annual health service plans,[11] which currently focus on the improvement of efficiency of overall hospital management and the disease management system, to decrease health-related mortality and morbidity. The plans are categorized into 19 groups, in accordance with major health problems within the Thai population, namely heart diseases, cancer, accidents, newborn health, mental health and psychiatry, primary care and district health services, oral and dental care, kidney diseases, eye diseases, non-communicable disease, Thai traditional and alternative medicines, organ donation and transplantation, intermediate and palliative care, development of rational drug use system, surgery drug misuse and addiction, internal medicines, maternity and child care, and orthopedics. The plans have most recently been expanded, and they now include the principle of rational drug use with a view to improving the drug system and its management such that it is compliant with the management of health service plans by the MoPH.[11]

Third, under the provisions of the Universal Coverage Scheme, a public health insurance scheme that covers the majority of the population, each public hospital is linked with primary care units and is responsible for setting up family medicine teams to provide home health care; these teams often include hospital pharmacists. On a related note, hospital pharmacists are tasked with the promotion of patient self-care. These new roles related to primary care by hospital pharmacists are institutionalized through by a number of government policies such as the 2017 Constitutional Law, the National Health Assembly's Strategic Plan (2007–2016), the Strategic Plan for Health Education for the 21st Century (2014–2018), the Strategic Plan for the Decade of Primary Care Systems (2016–2026), and the 20-year National Strategy on Public Health.[10,11]

Finally, in addition to shifts in health policies and the institutionalization of quality assurance among hospitals, a variety of socioeconomic factors influence hospital pharmacy practice. These factors include increasing morbidity and mortality associated with noncommunicable diseases, public expectations of hospital services, aging of the population, and the emergence of a digital society, all of which have produced a constantly changing environment in which hospital pharmacy is practised and have led to changes in hospital pharmacy practice itself.[12] In particular, it has been observed that, since 2010, hospital pharmacists have become more specialized. As patients are increasingly more diverse and management of the medication system has consequently become more complex, there is a greater need for increased knowledge and skills in pharmaceutical care among pharmacists.[12] As a result, several associations of hospital pharmacists have been formed to update academic knowledge and clinical skills for their members. Currently, Thailand has 8 hospital pharmacy groups, called "communities of practice": the Adverse Drug Reactions Community of Pharmacy Practice Thailand, the Pharmacist Initiative for Patients Living with HIV/AIDS Thailand, the Group of Thai Aseptic Dispensary Pharmacy Practitioners, the Thai Pharmacist Practitioner Group in Asthma and COPD [chronic obstructive pulmonary disease], the Thai Pharmacy Community of Practice for Diabetes Care, the Society of Family Pharmacists Thailand, the Community of Pharmacists for Heart

and Vascular Diseases of Thailand, and the Thai Renal Pharmacist Group.[12]

PHARMACY EDUCATION FOR HOSPITAL PHARMACY PRACTICE

Pharmacy Education

As approved by the Pharmacy Council of Thailand, there are 19 pharmacy faculties in 14 public and 5 private universities throughout the country. They offer professional pharmacy degrees that are accredited by the Thai Qualifications Framework for Higher Education. All practising pharmacists must obtain a degree known in Thailand as "Doctor of Pharmacy (PharmD)". The degree takes 6 years to complete, is equivalent to a combined bachelor's and master's degree, and should be distinguished from the Doctor of Philosophy in Pharmacy (PhD in Pharmacy). The PharmD program encompasses 3 possible tracks: pharmaceutical care,[13] industrial pharmacy,[14] and consumer protection in drugs and health.[15] Most universities provide both the pharmaceutical care and the industrial pharmacy tracks. Five universities provide only the pharmaceutical care track, and 2 universities have recently introduced the track for consumer protection in drugs and health.[16]

The pharmaceutical care track is tailored for practice in hospital settings. All students study preclinical courses in their first 3 years and then select from a range of elective pharmacy courses during their final 3 years. Under the minimum requirement of 220 credits and certain minimum credits for each subject domain (e.g., 30 credits for general education, 114 credits for the pharmacy profession, 6 credits for electives, and 30 credits for basic sciences), universities are able to shape their graduates by designing curricula that meet specific needs of the health system.[16]

Regardless of their specialty (track), all graduates must meet core professional competency standards set by Pharmacy Council of Thailand.[17] They are required to take and pass a national licensure examination after completion of their sixth-year clerkship. Also, PharmD students enrolled from 2014 onward must pass 2 examinations: the Pharmacy Licensure Examination Core Competency, which is compulsory for all students and is to be taken after completion of the fourth year and a clerkship,[18] and an additional examination to specifically evaluate their competency regarding the specialty track (either industrial pharmacy or pharmaceutical care).[18] However, regardless of their specialty track, all graduates receive the same professional license from the Pharmacy Council of Thailand.

For Thai pharmacists, education continues after graduation. The Pharmacy Council of Thailand has, since 2016, required that all pharmacists participate in continuing pharmaceutical education. The purpose is to ensure that the knowledge and competency of practising pharmacists are standardized and continually updated in the dynamic context of the health system in which they work. Pharmacists are expected to acquire at least 100 credits within 5 years and not less than 10 credits in any given year.[19] Continuing pharmaceutical education credits can be earned through several activities, such as attending an academic conference and e-learning. Pharmacists who graduated after 2015 need these credits to renew their licence every 5 years.

In total, the pharmacy faculties throughout the country recruit about 2000 students annually. The average number of newly licensed pharmacists is 1700 per year, with a 2% loss rate per year. In 2016, there were 28 896 pharmacists, about 40% of whom worked in a hospital.[20]

Pharmacy Education in Response to Shifts in Hospital Pharmacy Practice

Pharmacy education in Thailand has evolved since its inception in 1914, both in terms of study years and content. These changes are attributable to many factors, such as changing health needs of the population, international and national policies regarding health care, health care system reforms, and advancement in knowledge and technologies.[21] The development of pharmacy education to serve the changing needs of the health care system and the changing practices of hospital pharmacy are summarized in Box 1.[16,20,22-25]

Similar to the PharmD program in the United States, the original intent of expanding the pharmacy curriculum to a 6-year PharmD program was to develop expertise in pharmaceutical care.[26] This change took place in spite of initial concerns from the wider profession,[27,28] and graduates themselves now see the advantages to be gained from specialization in the additional year.[29]

With regard to the number of pharmacy graduates to meet the needs of the society, the Pharmacy Education Consortium of Thailand, an independent agency consisting of deans of pharmacy faculties nationwide, has agreed to encourage at least 200 pharmacists per year to continue their education (in the form of a diploma or a certificate) and, focusing on primary care and herbs, to produce at least 100 herbal pharmacists per year.[8] The Consortium is currently planning to organize a public hearing on the final draft of the competency framework for future pharmacists (2016–2026), which has been developed on a needs-based approach.[29,30]

Challenges Ahead for Pharmacy Education under the Needs-Based Approach

To design pharmacy education for future hospital pharmacists, further reform is needed. Without workforce planning that takes into account future pharmacy roles, the pharmacy workforce will not have the capacity to meet the needs and expectations of the health care system. In light of the increasing complexity of drug and health care systems in Thailand, the challenges for future

Box 1. Pharmacy Education in Response to Changes in Pharmacy Practice[16,20,22-25]

Doctor of Pharmacy (PharmD) Training

Duration of Basic Pharmacy Education

The pharmacy curriculum has been extended from a 5-year bachelor degree program to a 6-year Doctor of Pharmacy (PharmD) program. The change began in 1999 in a single public university and was finally rolled out to all universities in 2008. The PharmD curriculum requires a high proportion of practice hours, with the ratio of study periods for the theory component of the curriculum, the practice component, and the research component being 51:47:2.[20] Specifically, the following requirements must be fulfilled: 200 training hours in a community pharmacy and 200 training hours in a district hospital (providing secondary care) after the fourth year of course work; 1600 training hours through 6 or 7 clinical rotations in the sixth year, with a 6-week period for each rotation, with at least 4 rotations selected from community pharmacy, primary care, ambulatory care, acute care, medication management, or consumer protection, and 2 or 3 elective clerkships relevant to the trainee's sub-track. The increasing number and competency of PharmD preceptors supports the extension of these clerkships.

Separation of Specialty Tracks

The depth of pharmacotherapy training in the pharmaceutical care track (which trains graduates to work in tertiary care hospitals) is different from the other tracks.

Transition of Teaching Model

The teaching model has shifted from lecture-based teaching to transformative learning, with an emphasis on outcome-based education and experiential learning at all levels of the hospital and the community settings, with interprofessional education. Teaching materials and tools have been developed in response to national policy movements; for example, a teacher's guide (manual) on rational drug use[22] and a curriculum guide on patient safety[23] have been developed at the national level.

Postgraduate Training

Hospital pharmacists can advance their careers through postgraduate training.

Master's Degree in Clinical Pharmacy (2-year program) and PhD (4-year program)

Apart from a full-time master's degree program in clinical pharmacy, credits can also be earned in a module system, in collaboration with the Health Administration Division, Office of the Permanent Secretary of the Ministry of Public Health, and 4 regional pharmacy faculties in the country, namely Chiang Mai University, Khon Kaen University, Prince of Songkla University, and Silpakorn University.[24]

Residency Program and Short-Term Training Courses[25]

The College of Pharmacotherapy of Thailand provides a residency program in pharmacotherapy; a 4-year program for a specialized fellowship; and 1-year or 3-year program for a certificate of general residency in pharmacotherapy and a certificate of specialized residency, respectively. A residency program in health consumer protection is also available from the College of Pharmaceutical and Health Consumer Protection of Thailand. In addition, hospital pharmacists can take short-term (3-month) training courses in specific areas, such as pharmaceutical care in cancer, outpatient care, therapeutic drug monitoring, palliative care, asthma, and chronic obstructive pulmonary disease.

pharmacy education are outlined in Box 2,[16,28-30] separated into supply-side and demand-side issues.

Thai hospital pharmacists have a broad range of responsibilities from drug system management to patient care services, and from tertiary care to primary care services. Under the government's universal health coverage initiative (whereby the entire population is covered under a public health insurance scheme), primary care responsibilities have been increasing for hospital pharmacists. These responsibilities require a holistic mindset and a systems approach, marking a significant departure from how hospital pharmacists have been trained in the formal education system.

To prepare the pharmacy labour force for these changing needs, every party in the pharmacy profession has an important role to play. Pharmacy educators should redesign their curricula further such that graduates will be well equipped with both technical specialty skills and "soft skills". Pharmacy workforce leaders should encourage members of the profession to collect evidence to strengthen the demand for pharmacy human resources.[30]

The Pharmacy Council of Thailand and other professional organizations will also need to work together in redefining the profession to highlight the contribution of pharmacy services to society, and to readjust the pharmacy competency framework to reflect new emerging roles of pharmacists. They should also refine evaluation methods used to determine competency of graduates and establish a feedback mechanism that would serve as a platform for better workforce development. An example of a change in this direction involves distinguishing different pharmacy licences for each specialty track, such that the competency development for different types of pharmacists in the workforce can be better focused.[16]

Workforce Planning

For many years, there have been insufficient pharmacists to meet the needs of the population. In 1984, to address this shortage, the Thai government mandated that all graduating pharmacy students work in a public hospital for 2 years. This resulted in higher recruitment of pharmacists, particularly to rural community hospitals, and enhanced drug-related patient safety; however, because of financial constraints, the number of government-funded pharmacists was capped in the year 2000. However, universal health care coverage and improved pharmacy performance standards have resulted in an increased demand for pharmacists and so, in 2006, an alternative scheme was introduced whereby pharmacy students were required to sign a

Box 2. Supply-Side and Demand-Side Challenges for Future Hospital Pharmacists[16,28-30]

Supply Side

How can pharmacy education improve learners' competencies to serve the demands of hospital pharmacy practice in Thailand?

- Roles of hospital pharmacists in Thailand include not only drug dispensing, but also drug-system management, consumer protection, and a variety of primary care services.[28]
- Pharmacy curricula are designed primarily to develop clinical pharmacy skills appropriate for tertiary care hospital services.[28]
- Greater needs for primary care services are emerging, and they require a holistic mindset and systems approach. The skills needed here differ from those required in tertiary care services.[16,30]
- Soft skills (e.g., systematic thinking, critical thinking, leadership, lifelong learning) are essential for the 21st century. They need to be integrated more formally into pharmacy curricula.[29]
- The varying degrees of depth and breadth of knowledge and skills required for entry-level and advanced pharmacy practices need to be more carefully aligned, which will require wider discussion within the profession.[16]
- Postgraduate training programs designed for advanced professional development(.e.g., short courses and e-learning/ massive open online courses, also known as MOOCs), are in demand, yet the supply of such courses seems to be limited.

Demand Side

How can the high demand for pharmacists be sustained, both qualitatively and quantitatively? The following steps should be taken:

- Redefining the roles of the pharmacist so as to gain trust and acceptance from society.
- Finding evidence to highlight the significance of pharmacy services.
- Putting in place recruitment procedures to ensure a good workforce–workplace match.
- Providing continuing professional development that is designed specifically to enhance the career path of hospital pharmacists.

one-sided contract in which they agreed to work for at least 2 years under the auspices of the MoPH if required.

Despite these measures, demographic changes such as the aging population, globalization, and digital health have all resulted in further demands on the pharmacy workforce and ongoing workforce shortages. This is best illustrated quantitatively. A dynamic modelling study[8] estimated that by 2026 the number of pharmacists working under the auspices of the MoPH would be insufficient based on the projected needs of the aging Thai population. Specifically a further 24 774 pharmacists would be required to deliver the health service plans as envisaged in the 20-year National Strategic Plan. Put another way, 3.73 pharmacists would be needed for every 10 000 people.

The implication is that the MoPH will need to recruit 1602 more pharmacists per year for 10 consecutive years, to solve the supply shortage within the ministry alone. The Pharmacy Education Consortium of Thailand has suggested that the government reconsider the government–pharmacy student agreement, and more formally include pharmacist positions in the ministry, increasing the number of spots from 350 to 1600 per year.[8]

CONCLUSION

Increasing demands and costs of delivering health care pose major challenges for health services in Thailand. The cooperation of health-related stakeholders, including patients, policy-makers, and health care professionals, is core to identifying a sustainable solution. Hospital pharmacists represent a key group of stakeholders who can play an important role by working collaboratively with other health care professionals to provide efficient health care services and drug system management, leading to a reduction in unnecessary and preventable health care costs. However, there are challenges for Thai hospital pharmacists who take on extended roles. These include a requirement for in-depth clinical knowledge and skills and more specialized understanding of the pharmacotherapy of diseases, as well as improved medication management skills, and systematic and critical thinking. There are also new opportunities for extended roles for pharmacists to provide holistic care at the primary care level, including home health care and community-based care.

To date, educational establishments have responded to these challenges by providing appropriate undergraduate and postgraduate training, residency programs, and continuing education curricula. The 6-year PharmD curriculum should now be revised to be more outcome-based, developing competences and increasing interprofessional learning. In the future, Thai pharmacists working in hospitals, the community, or academia will all have a core set of advanced competencies to serve the needs of society.

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INTERNATIONAL PERSPECTIVES ON PHARMACY PRACTICE / PERSPECTIVES INTERNATIONALES SUR LA PRATIQUE PHARMACEUTIQUE

The article about pharmacy practice in Thailand appearing in this issue of the *Canadian Journal of Hospital Pharmacy* (*CJHP*) brings to a close the series International Perspectives on Pharmacy Practice. The *CJHP* Editorial Board initiated the series in late 2015, with the goal of "describing health care systems around the globe and the role that pharmacists play within these systems."[1] International authors were invited to share their respective countries' "approaches to providing pharmaceutical care and information about services offered in hospital, community, and other related health care settings." The Editorial Board hopes that through this series, readers have come to "better understand and learn about other practice innovations and systems and … gain an appreciation for pharmacy practices globally."

The series comprised articles on 13 countries[2-14] representing the 6 regions defined by the World Health Organization: Africa, the Americas, South-East Asia, Europe, the Eastern Mediterranean, and the Western Pacific. The following is a complete list of the articles in this series:

1. Raman-Wilms L, Moles RJ; *CJHP* Editorial Board. Widening our horizons: pharmacy practice from a global perspective. *Can J Hosp Pharm*. 2015;68(5):417.
2. Moles RJ, Stehlik P. Pharmacy practice in Australia. *Can J Hosp Pharm.* 2015;68(5):418-26. [WHO region: Western Pacific]
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6. Scott DM. United States health care system: a pharmacy perspective. *Can J Hosp Pharm*. 2016;69(4):306-15. [WHO region: Americas]
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