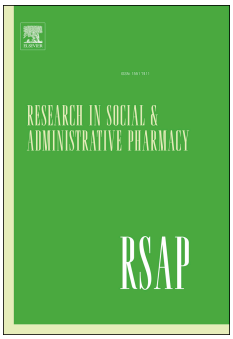

Advancing a global pharmacy support workforce through a global strategic platform

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Advancing a global pharmacy support workforce through a global strategic platform

Abstract

The pharmacy support workforce (PSW) is the mid-level cadre of the global pharmacy profession, referring to pharmacy technicians, assistants and other cadres that assist in the delivery of pharmaceutical services in a variety of practice contexts. The PSW undertake technical tasks delegated under the supervision of a pharmacist or performed collaboratively. The PSW are not intended to replace pharmacists, but rather work side-by-side with the pharmacist to achieve a shared goal. However, extensive variation in the PSW exists globally, ranging from an educated, regulated, and highly effective workforce in some countries to unrecognized or non-existent in others. Vast differences in education requirements, specific roles, regulatory oversight, and need for pharmacist supervision, inhibit the development and advancement of a global PSW. As clinical care providers, pharmacists worldwide need for a competent support workforce. Without the confidence to delegate technical responsibilities to a well-trained and capable PSW, pharmacists will be unable to fully deliver advanced clinical roles. A clear vision for the role of the PSW in the expanding scope of pharmacy practice is needed. One organization working to unite global efforts in this area is the International Pharmaceutical Federation (FIP). The FIP Workforce Development Hub Pharmacy Technicians & Support Workforce Strategic Platform was established to address the pharmacy workforce shortage in low and middle-income countries. Further developments were made in 2019, with the creation of a representative global PSW advisory panel, to provide guidance towards the development of the global PSW. Provision of frameworks and strategic input to support quality in education, development of legislative frameworks, guidelines for registration and licensure, and advice on appropriate role advancement are critical to move the PSW forward. In order to produce substantial advancement of roles and recognition of the PSW and advancement of pharmacists as patient care providers, global collaborative work is needed.

Keywords: pharmacy technician; global workforce; advancement in pharmacy

Advancing a global pharmacy support workforce through a global strategic platform

According to the World Health Organization (WHO), a global shortage of 12.9 million healthcare workers will exist by 2035.[1] A separate labor market model projection predicts that number to be as high as 15 million by 2030.[2] In order to overcome workforce challenges, the WHO accepts the important role of mid-level providers (health workers with 2-3 years of post-secondary school healthcare training who undertake the tasks usually carried out by doctors, pharmacists or other health professionals), as country-specific targeted production of these mid-level cadres is time-and cost-effective.[3] In the field of pharmacy, the mid-level cadre is known as the pharmacy support workforce (PSW), referring to pharmacy technicians, assistants and other cadres that assist in the delivery of pharmaceutical services in a variety of practice contexts.[4] As the name implies, the PSW undertake technical tasks that are delegated under the supervision of the pharmacists or are performed collaboratively. The PSW are not intended to replace pharmacists, but rather work side-by-side with the pharmacist to achieve a shared goal. However, extensive variation in the PSW exists globally, ranging from an educated, regulated, and highly effective workforce in some countries to unrecognized or non-existent in others. Vast differences in education requirements, specific roles, regulatory oversight, and need for pharmacist supervision, inhibit the development and advancement of a global PSW. In the context of these challenges, the objective of this work is to describe the global landscape of the PSW, review the variability in regulation, education, and scope of work, and to describe the efforts by the International Pharmaceutical Federation to support and advance the PSW worldwide.

Pharmacy support workforce: context & capacity

The Pharmacy Workforce Intelligence Global Trends Report 2018, the largest retrospective study of the pharmaceutical workforce capacity ever conducted, projects a 40% growth of the total pharmacy workforce by 2030 but also an associated trend of an increasing capacity in the workforce availability of pharmacists between high and low income countries.[5] Despite the pharmacist workforce being the third largest healthcare profession (following nurses and physicians), in many countries there is a shortage or maldistribution of pharmacists, and therefore it is anticipated that the PSW roles will be extended so as to support provision of primary pharmaceutical services.[5,6]The results of a 2017 survey of 33 countries showed that the density of pharmacy technicians worldwide is 2.52 per 10,000, with lowest density in low-income countries and highest in middle- and high-income countries (Figure 1).[7] The lowest density was in the African Region (AFRO) and highest in the Western Pacific Region (WPRO) (Figure 2).[7]

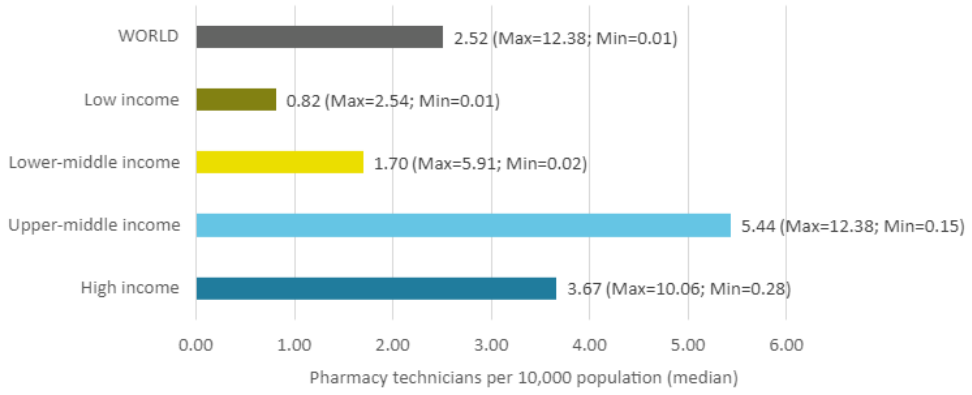

Figure 1: Density of Pharmacy technicians per 10,000 population by the country income level.[7]

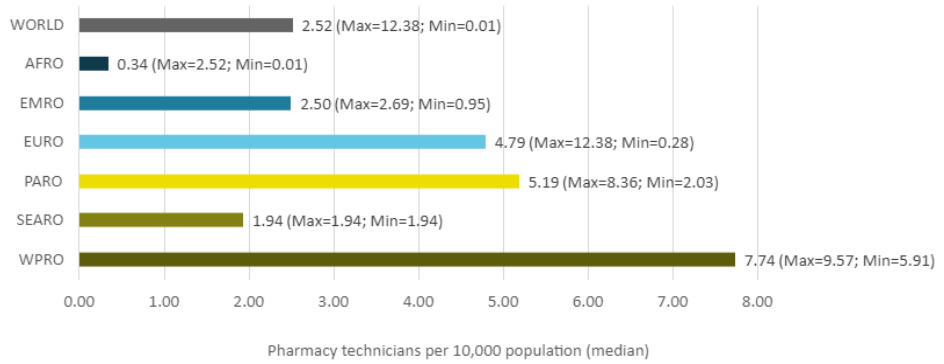

Figure 2: Density of Pharmacy technicians per 10,000 population people by WHO regions.[7]

With a current and future global healthcare workforce crisis, the need for advancement in the field of pharmacy has never been higher. However, as clinical care providers, the need for a competent, appropriately educated workforce to support pharmacists is critical. Without the confidence to delegate technical responsibilities to well-trained and capable pharmacy technicians and support workers, pharmacists will be unable to fully deliver advanced clinical roles. The literature in the fields of occupational and organizational psychology suggest that practicing "at the top of one's license" occurs not when adding to a long list of functional tasks designated in scope of practice, but rather when delegation effectiveness is optimal and practitioners are able to shape their own practice environments. In the field of nursing, "top of license" care is described as representing practice meeting its full potential.[8] Thus, it behooves not only society but even pharmacists to embrace the emerging roles and importance played by pharmacy mid-level cadres so as to advance the collaborative drug therapy management.[9]

Variation in PSW education, regulation, and services

Advancing the PSW to ensure pharmacists in all countries are supported by a high-quality workforce is limited by the substantial global variation of the PSW. The specific tasks which can be delegated, scope of practice, education and training requirements, necessary level of pharmacist supervision, and regulatory status of the PSW differ country-to-country.[10] Even the taxonomy utilized to identify PSW personnel varies greatly, with a majority of countries using the designation "pharmacy technician" while some choose individualized designations, such as Denmark's "pharmaconomist" and South Africa's "qualified pharmacist's assistants". In other countries, support workforce cadres are not even a recognized or regulated profession. This reportedly occurs because either pharmacists are plentiful and support is not needed, or legislation does not support or acknowledge other cadres besides pharmacists working in pharmacies.[10]

The level of required education and opportunity for advancement are other areas in which significant global variation exists. Prerequisites to registration of a PSW cadre with a regulatory body vary between no educational requirement in some countries to a four-year degree from a university in others. Many countries also offer the opportunity for PSW members to advance through additional certification or licensure. In the Philippines, for example, drug establishments are directed to employ only pharmacy assistants who hold an initial certification of training.[11] However, pharmacy assistants can advance their careers and become professional drug attendants by completing additional accredited modules via a mobile application.[12] In Malawi, pharmacist's assistants and pharmacy technicians are trained on a two-year certificate or three-year diploma programme, respectively before they can

register with the Malawi Pharmacy, Medicines and Poison Board (PMPB) to practice.[13] In Europe, some countries require the equivalent of a three-year or four-year Bachelor degree (Lithuania and Portugal, respectively), while in the Sweden, a three year bachelor degree leads to the grade of pharmacy prescriptionist who has the same legislative rights as a pharmacist in other countries.[14-15] Pharmacy technicians in the United Kingdom are required to complete a level three accredited vocational training and undergo a specified number of hours in the workplace, but in Singapore a pharmacy technician can enter the workforce by completing an entry-level certificate.[17,18] Moreover, there is a lack of standardization and wide variation that exists even within certain countries, such as the United States, where educational requirements to enter practice vary by state.[19]

Education programs and training of PSW differ globally, in part due to the variation to the expected scope of practice. A 2017 global descriptive study was developed to assist countries in considering how to organize the pharmacy workforce collaboratively to meet local and regional needs and improve patient care.[10] Results described countries such as Canada, the United Kingdom, Denmark, and Malawi, where members of the PSW have independent roles that, while regulated, do not require direct supervision by a pharmacist.[10,20] Others, like the United States (US), have technicians undertaking relatively advanced roles, such as product verification or immunization administration, but require pharmacist supervision at all times. In certain nations where there is less robust legislation, the PSW practices independently out of necessity. The supervision requirements and the level of independence of the PSW are also related to the extent of pharmacy-based involvement and the distribution of pharmacists. It has been reported that a remote supervision mechanism for telepharmacy is being used in some countries; meanwhile in other geographical areas where a shortage of pharmacists exists, the extension of PSW competencies stems from a necessity for pharmaceutical service delivery.[10] In fact, PSW personnel might serve as initial entry into health care for patients in many low-income countries and are often involved in consultation as it relates to minor ailments and serving as a primary link in the medicines supply chain to patient households.[13] While many individual countries continue to advance the role of the PSW, the disparate nature of these results demonstrate the need for a globally aligned initiative.

In addition, although in practice some pharmaceutical tasks of pharmacists and PSW can overlap, the competencies and skills of both professions are not the same and each should be clearly defined to ensure the common goal of patient care is met. A 2017 study described the evolution of the professional relationship between pharmacists and the PSW.[21] Historically, the PSW roles evolved when pharmacists took on additional clinical skills, moving away from a product orientation towards a service orientation.[21] As pharmacists stepped away from traditional dispensary activities into the new territory of advanced medicines related clinical services, the PSW roles, under the supervision of the pharmacist, evolved to fill the service gaps. The PSW was not intended to replace pharmacists, but rather to support and collaborate with the pharmacist to provide the highest quality of patient care. The expansion of PSW roles has also occurred as innovative opportunities related to the profession have emerged. Managers of clinical effectiveness and managers of professional development have been acknowledged as the examples of independent leadership positions for the PSW.[10] Denmark, for example, has seen a significant growth in the number of pharmaconomists employed in municipal elderly care and with general practitioners.[22]

As PSW roles move toward advanced and independent functions, consistency in education, licensure and registration, and ongoing regulation must also evolve. Further work identifying and addressing the challenges of advancement in pharmacy was described by Bader and colleagues in 2017.[23] This study introduced a conceptual framework with three key areas of advancement: education,

regulation, and practice. While this work was focused on addressing the profession of pharmacy in Jordan, many of the eight challenges of advancement described therein are also applicable to ongoing global challenges. Continuing professional development, accreditation, and quality assurance in education, and addressing remuneration and wage rates, are all highlighted as challenges that must be addressed to move pharmacy development forward and are not unique to one country. Evidence suggests that even in higher income countries, wage stagnation for PSW personnel persists.[24] This comes even while pharmacists have increasingly embraced expansion of roles for technicians and the first-ever economic evaluations of technician practice are entering the literature and providing highly favorable results.[25,26]

Concerted efforts to develop the global pharmacy support workforce

In order to produce substantial advancement of roles and recognition of the PSW, global collaborative work is needed. One organization working to unite global efforts in this area is the International Pharmaceutical Federation (FIP). FIP is a non-governmental global professional leadership organization to support the development of the pharmacy profession. FIP represents more than four million pharmacists, technicians, pharmaceutical scientists, and pharmaceutical educators world-wide.[23] Additionally, FIP partners with the WHO, United Nations Educational, Scientific, and Cultural Organization (UNESCO), and many regional pharmacy organizations worldwide to improve global health through advancing pharmacy practice and science.[27,28]

The 2009-2012 Pharmacy Education Taskforce of the International Pharmaceutical Federation documented a global shortage of PSW cadres.[4-6] In response, the Workforce Development Hub Pharmacy Technicians & Support Workforce Strategic Platform (PTSWSP) was established in 2011 to address the pharmacy workforce development challenges and transformation needs, especially faced in low and middle-income countries and address the need to support pharmacists' expansion into advanced clinical roles.[29] The first annual FIP Global Pharmacy Technician and Pharmacy Support Workforce Symposium in 2012 created an opportunity for increased focus on practice development and sharing of ideas to address the needs of the global support workforce.[29] This symposium is now held annually in conjunction with the FIP World Congress of Pharmacy and Pharmaceutical Sciences.

Additional progress was made during the 2016 Global Conference on Pharmacy and Pharmaceutical Sciences Education in Nanjing when the pharmaceutical workforce was defined to expand beyond pharmacists and include all pharmacy related workforce, including pharmacy technicians and other pharmacy support workers. As a defined member of the pharmaceutical workforce, the PSW subsequently became recognized within the FIP Pharmaceutical Workforce Development Goals (PWDG), that were adopted at the Global Conference. These 13 goals, grouped into three clusters (academy, professional development, systems), are aligned with major international policies and describe workforce development through education. While each of the development goals is applicable, in theory, to the PSW, the status of integration of the support workforce within these goals still needs further clarification.

In 2020, FIP launched the FIP Development Goals (FIP DGs). The FIP DGs are a major initiative for pharmacy, and they build on the PWDGs to develop goals that not only drive the transformation of workforce and education but also practice and science. The FIP DGs align with FIP's mission to support global health by enabling the advancement of pharmaceutical practice, sciences and education. Having a set of "One FIP" Development Goals enables us to identify commonalities across all areas of FIP, as well as some unique attributes in each area. It is imperative to bring science, practice and workforce, and

education together into one transformative framework for our members and the wider profession to clearly set out the goals for development for the next decade. These goals coincide with recent findings that PSW employers seek pharmacy support personnel with a greater sense of professionalism imbued through training and along with dedication to the field of pharmacy and its patients.[30]

Together with the existing Goals for workforce and education, new goals have been developed for practice and science, which form the core elements of the FIP DGs. Practice and science elements were developed and the wider set extended to the 21 FIP DGs to accommodate additional practice and science themes. Each of the 21 FIP DGs comprise essential workforce, practice, and science elements. The existing 13 PWDG descriptions and mechanisms remain as an underpinning to the workforce elements of the FIP Development Goals 1-13.

Another significant advancement was made in 2019 with the creation of the global PTSWSP advisory committee to provide guidance towards the mutual and continued development of the global PSW and its integration with the FIP DG's and pharmaceutical workforce in general. The aim of the PTSWSP advisory committee is to provide informed guidance and expert advice for the development of leadership activities associated with global development of the PSW and ensure integration with the FIP workforce mission. The advisory committee is led by FIP and comprises FIP stakeholders together with external organizations and individuals who are committed to provide guidance towards the mutual and continued development of the global PSW. Moreover, the PTSWSP advisory committee currently has four active working groups supporting the delivery of the Committee's objectives and activities. Table 1 lists those working groups and highlights one of the key activities undertaken by each group.

Table 1: 2020 Working Groups of the FIP PTSWSP.

Working group	Selected key activity
Governance & Strategy	Establish strategic priorities for review by the Committee and create a corresponding committee work plan including deliverables, milestones, resources and target dates
Events & Symposia	Lead the organization and delivery of the annual Pharmacy Technician Symposium and a portfolio of digital events
Engagement & Advocacy	Develop a Communications plan to showcase the pharmacy technician workforce broadly and create a community of practice/global network, including creation of an e-newsletter for distribution to FIP members three to four times a year
Evidence & Resources	The development of a foundational competency framework for the pharmacy support workforce to support early career training and professional advancement.

Advancing the Pharmacy Profession and the Patients It Serves

PSW roles continue to evolve in many countries in response to the need for pharmacists to deliver advanced services to increase access to quality medical care. While the PSW is on a positive trajectory with support from leading global organizations, there is much work to be done. There is an extraordinary burden of disease throughout the world, exacting its toll with morbidity and mortality of all peoples. As these chronic diseases and sudden devastating phenomena such as COVID-19 have shown us, there are global threats and issues common to us all that must be met by an adequately

trained workforce with an imbued sense of purpose. Yet at the same time, systems training must be flexible to meet the needs of individual nations and populations given their pointed differences in health care delivery systems, available labor capital, and the unique challenges faced by their most vulnerable populations. A clear vision for the role of the PSW in the expanding scope of pharmacy practice and collaborative multidisciplinary patient-centered care is needed. Addressing the healthcare workforce crisis will take a strong global effort over a substantial period of time. Incorporating mid-level pharmacy workforce cadres into viable solutions will increase their likelihood of success. We must address lingering problems that have plagued the proper deployment and recognition of these cadres. Efforts and partnerships like those described herein are paramount for a healthy future.

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