



Original Contribution

UNLOCKING THE POTENTIAL OF THE HEALTH SYSTEM BY CREATING OPPORTUNITIES FOR SPECIALISATION FOR PHYSICIAN ASSISTANTS

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ABSTRACT

This review article explores the opportunities for specialization of physician assistants (PA) in various medical specialties in an international context. The profession of PA plays an increasingly important role in healthcare, especially in systems with limited resources. The specialization (residency) of these professionals allows for higher quality of medical care and more effective distribution of responsibilities in multidisciplinary teams. The main emphasis is placed on the system in the United States, where the opportunities for residency are best developed through accredited programs in areas such as cardiology, surgery and others. The United Kingdom and Germany are still developing the profession and its specialized areas. Australia is also taking steps in this direction, albeit with a limited scope. Bulgaria, compared to these countries, is taking the first steps in the establishment and qualification of these specialists. Through a comparative analysis, good practices and the potential for adapting successful models in different healthcare systems are outlined. The conclusions of the review emphasize the need for regulation, standardization, and investment in the education of physician assistants with the aim of their broader engagement and specialization in clinical practice, including with the aim of alleviating the healthcare workforce crisis in Bulgaria and Europe.

Keywords: physician assistant, feldsher, specialization

INTRODUCTION

The physician assistant (PA) profession emerged in the 1960s in the United States of America (USA) when the shortage of primary care physicians was very significant. The first PAs were actually former military orderlies who Dr. Eugene Stead of Duke University Medical Center retrained (1). Many other medical professions have since developed in countries such as Canada, the UK and the Netherlands. The need for PAs arose because of the need for better trained medical personnel capable of performing a variety of medical services under direct physician supervision. The specialization of PAs enhances the quality of medical care but also increases their responsibilities for more precise and efficient care. In different countries, the scope of practice and opportunities for specialization are very

diverse. For example, in the United States and Canada, different areas of specialization are available to PAs with broad medical practice (2). In the UK, their role is more limited within the health system but equally important. International benchmarking on specialisation opportunities and the scope of practice of PAs therefore seeks to show the difference and similarity between them in different parts of the world.

GENERAL CHARACTERISTICS OF THE PROFESSION

A physician assistant is a medical professional who works under the direction of a physician and provides skilled and competent medical care in a variety of settings. Their work includes diagnosis, treatment, rehabilitation, prevention and health promotion, and they have solid knowledge in these areas and carry out preventive activities. Physician assistants work closely with doctors in various medical settings, such as urgent care centres, specialist teams and

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other health institutions (3). They can perform medical care alone or in a team, making decisions and showing dynamism and autonomy. Although they work mainly under the supervision of doctors, physician assistants play an important role in the health system, contributing to improving the quality of medical care and expanding the functions of health teams (3).

Training for an assistantship begins after high school with a four-year undergraduate program. They can also choose a master's program to continue their education toward a higher degree. Training emphasizes clinical practice, which includes academic clinical practice and preceptorship to enhance practical skills and competencies in a variety of health care settings. Graduate physician assistants, after their training, have the most up-to-date knowledge and skills in their professional field, as well as continuing education opportunities to improve their theoretical knowledge and practical skills (4).

The assistant is very important in health care delivery, serving as a bridge between the doctor and the patient. In those places where there is a shortage of medical staff, they are first in the medical hierarchy, and where they work together with doctors they are second in the hierarchy after the medics. They are trained in a wide range of medical activities: diagnostic-consultative, therapeutic and preventive in health promotion, and perform them second only to the doctor. Physician assistants are effectively guided by the physician, engaging in medical tasks that are assigned to them by the medic (3). This important function is appropriate for those areas where medical care is not readily available, as this is where their service will be needed to provide care and improve the health status of the population (5). In this respect, physician assistants are economically viable and are an appropriate response to the need for complementary health services that meet the growing needs of society and at the same time optimise health systems by improving the quality of health care.

THE U.S.: THE MOST DEVELOPED SYSTEM OF SPECIALISATION OF PA

The United States has a highly developed physician assistant specialization system, offering over 50 different specializations. This diversity allows PAs to focus on specific areas of medicine, receiving specialized training and clinical practice in them (6). Popular specialties

include emergency medicine, general medicine, internal medicine, psychiatry, surgery, cardiology, paediatrics, oncology, and many others. In cardiology, PAs work with patients with cardiovascular disease, performing diagnostic procedures and helping develop treatment plans. In surgery, they are an important part of the team that performs surgeries, helping prepare patients before surgery and with their recovery. In paediatrics, they look after the health of children, carrying out examinations and diagnostics, as well as providing advice on healthy living. In oncology, assistants help in cancer management, performing diagnostic procedures and developing treatment plans (7). The National Commission on Certification of Physician Assistants (NCCPA) offers Certificates of Added Qualifications (CAQs) in some of these specialties that help PAs protect their knowledge and skills. This variety of specializations not only improves the quality of medical care, but also provides PAs with opportunities for personal and professional development in a variety of health care fields. The specialization of PAs in the United States is important not only to improve the quality of medical services, but also to meet the growing health care needs of the population, allowing health systems to optimize their resources and provide more efficient patient care (8).

PA residency programs in the US are not in all medical specialties (9). Physician assistants may engage in additional training or certification programs that range in duration from a few months to several years, depending on the specialty and training institution. Physician assistants can obtain specialty certificates or certificates of additional qualifications (CAQs) from the National Commission on Certification of Physician Assistants (NCCPA) after successfully passing the required examinations. These certificates are for knowledge and skills above the general level in specific areas of healthcare practice (5). Postgraduate training programs for PAs are common, and training institutions offer additional clinical rotations and/or fellowships lasting between 12-18 months. The focus of these programs is to increase trainees' exposure and specialization in specific areas of medicine, such as surgery or emergency medicine. The U.S. Department of Education recognizes at least one accrediting agency for PA programs to participate in student financial aid programs (10).

Certification of physician assistants in the United States is critical to their profession and is backed by the National Commission on Certification of Physician Assistants (NCCPA) (9). The NCCPA is the only organization that certifies PAs in the United States, and offers the Physician Assistant-Certified (PA-C) specialty after successful testing on the Physician Assistant National Certifying Examination (PANCE). Among the professional organizations that play an important role in the development and representation of PAs is the American Academy of Physician Assistants (AAPA), which is the national professional organization of PAs in the United States and represents over 178,700 PAs in all medical specialties (8). Another important organization is the Accreditation Review Commission on Education for Physician Assistant (ARC-PA), which is an independent body that accredits physician assistant education programs and ensures that these programs meet certain quality standards and provide a sound education (10).

The Mayo Clinic, Veterans Affairs, and Johns Hopkins (6) are leading providers of healthcare and physician assistant training programs in the United States. The Mayo Clinic (7) is one of the top PA programs in surgery, providing accredited training and clinical experience in one of the largest surgical departments in the states. Offering a wide variety of health education and training programs, with quality services and innovation, Johns Hopkins is another popular choice that offers health education and training programs to PAs (6). Veterans Affairs - primarily a health services system offering comprehensive medical care to veterans - also offers training and development opportunities to PAs in a wide range of medical specialties. They are key to the development of the health care system and the training of physician assistants because they provide opportunities for specialization and clinical experience in various areas of medicine, which is most critical to improving the quality of medical care and the development of the medical staff (11).

UK: START OF A SYSTEMATIC INTRODUCTION

The introduction of the Physician Associate (PA) system in the UK dates back to 2003 when the first group of US-trained PAs began working within the National Health Service (NHS). At the same time, local PA training programmes were developed in the UK. In 2013, the specialty of 'physician assistant' (PA)

was adopted in place of the previous 'physician associate' to prevent any confusion about the role of these professionals within the healthcare system. The Faculty of Physician Assistants (FPA) was established in 2015 as part of the Royal College of Physicians to provide an academic home for physician assistants and to set standards for their training and practice. The FPA works to improve the perception of the role of assistants among patients and healthcare professionals and to campaign for regulation of the profession. In 2024, it became clear that the FPA would be given independence from the Royal College of Physicians and the General Medical Council would take over the regulation of the physician assistant profession (12). Physician associates in the UK work in multidisciplinary teams with physicians as their supervisors and may function in a variety of specialties, such as general internal medicine, surgery and emergency medicine. The role of PAs is critical to addressing health staff shortages and improving the quality of care (13). In the UK a separate specialty, Anaesthesia Associates or 'anaesthetic associate' has been established (14). This suggests the significant role of the profession in the conduct of medical activities under anaesthesia. Regulation is also carried out by the country's General Medical Council.

PA training programmes in the UK typically include a wide range of clinical experience including general practice, hospital medicine and emergency medicine. All UK PA programmes focus on providing high quality clinical skills and knowledge that enable PA to work effectively in a variety of healthcare contexts (15). Fellows work under medical supervision and are empowered to perform procedures, but are not as autonomous as their US counterparts (13).

The PA profession has been supported mainly because it is cost-effective and well suited to the growing societal needs for health services, as well as to address the staffing crisis in the system. Improving the quality of care and optimising the UK healthcare system is only achievable through strong and autonomous medical assistants (15).

GERMANY: A PROFESSION IN THE MAKING

In Germany, the profession of "Arztassistent" (physician assistant) is still in the process of being established. The term "Arztassistent" has been adopted to designate this academic

medical profile, which is subordinate to doctors and performs tasks delegated by them. The first training programmes for physician assistants started in 2005, but there is still no clear regulation and framework for this profession (16). They work in hospitals and clinics, assisting in diagnosis, treatment planning and performing certain medical procedures under the supervision of doctors. Physician assistants play an important role in hospital care, especially in monitoring chronic diseases and surgical interventions. They are trained to carry out tasks such as administering medication, performing examinations and participating in surgeries. However, their role is not yet fully recognised or standardised at national level, which creates uncertainties about their position in the health system. The shortage of medical staff in Germany is one of the factors driving the development of this profession, as PAs can help address staffing shortages and improve the quality of healthcare services. Their profession is developing in Germany under this pressure. However, there is still debate about the role and authority of PAs, which reinforces the need for clearer regulation and a framework for their practice (17).

AUSTRALIA AND OTHER COUNTRIES

In Australia, physician assistant programs are limited and are often adapted from the American model. However, the country does offer medical assistant and allied health assistant programs that are not exactly equivalent to the U.S. PA. For example, courses such as Certificate III in Health Services Assistance and Certificate IV in Medical Practice Assisting offer training in administrative and clinical skills, but do not provide the same amount of clinical credentials as the US PA (18).

In Australia, the use of physician assistants in regional and remote health facilities has not yet gained much popularity, but there appears to be untapped potential. Although not widely accepted or standardised, the role of PAs could prove very significant in expanding health services in such areas. A model used in Australia is Fly-In-Fly-Out for the mining industry, where health services are provided in small, remote communities and may use PA (19). The model delivers care through professionals who travel to remote locations for short periods, providing only the necessary primary health services. PAs can provide basic medical services and assist physicians in remote regions where access to health services is

difficult. PAs are trained to carry out certain medical procedures and attend to the medical needs of patients under medical supervision so that they can improve health indicators in these areas. However, there is no information on programs related to the use of the PA concept in these settings in Australia. In addition, the introduction of the physician assistant profession into health care teams would contribute to reducing human resource deficits and improving the overall quality of medical services (20).

A new push to expand the work of PAs in Australia has sparked concerns that their role is detrimental to GPs, according to The Royal Australian College of General Practitioners (RACGP). The RACGP is "deeply concerned" by a new "Business Case for Change" proposing the further roll-out of physician assistants in Australian healthcare. It comes after the Queensland Hospital Authority published the proposed change, a plan that RACGP president Nicole Higgins says reflects the controversial use of PAs in the UK's National Health Service (NHS) and poses problems for general practice (21).

There is no doubt that there is a significant health workforce shortage and geographic inequitable distribution in Australia that requires innovative solutions and models of care to meet clinical demands (18). Some clinicians would welcome the use of PAs to address excessive clinical demands and acknowledge their relative success in the US system. However, there are numerous concerns related to the potential expansion of PA numbers in Australia. There is currently no university or educational institution offering training for PAs in Australia. This means that most of these professionals have completed training outside of the Australian healthcare system, with inconsistent alignment of standards. It is unclear how their accreditation in Australia will be standardised to ensure a consistent standard of care. In addition, there is no clear regulatory oversight of PAs beyond the supervision of senior doctors. They are not registered with the Australian Health Practitioner Regulation Agency (AHPRA) and are therefore not subject to the same level of scrutiny as other health professionals. The continuing medical education requirement imposed in the USA does not appear to apply in Australia and current professional development requirements are unclear. This increases the risk

to patient safety due to potentially outdated and poorly regulated practice (22).

In Canada, the Netherlands and Scandinavian countries, the "physician assistant" model exists. However, it is not yet widely recognised or standardised. In Canada, for example, there is interest in developing such models; although less so than in the US. On the other hand, however, some health care assistance programs are emerging, particularly in remote areas immediately affected by health workforce shortages. The Netherlands and Scandinavian countries have well-developed health systems, well-established traditions of interdisciplinary collaboration, and can therefore provide an environment conducive to the introduction of the PA profession. In these countries, health care is organised around teams consisting of different health professionals, thus also providing an appropriate environment for the integration of PA. Unleashing the potential of PAs will expand access to health services and optimize the health system by expanding the functions of health teams, although in remote areas where access is limited, offering basic health services as well as integrating PAs remains a good option. There is increased interest in this model in Canada, particularly in those provinces where pilot PA programs are being developed, including Ontario and British Columbia. The situation is the same in the Netherlands and Scandinavia, but so far there are only discussions and no concrete steps have been taken towards a wider use of physician assistants. Possible channels for introducing PAs in these countries will be driven by the need to fill vacancies in the health sector and to improve the quality of health services. The inclusion of PAs in health teams would also create a new policy that could in turn lead to improved health for the whole population in these areas (20).

THE SITUATION IN BULGARIA

In Bulgaria, physician assistants are trained in a bachelor's degree programme (23) consisting of 8 semesters of full-time study combined with pre-diploma practice and receive a degree and qualification corresponding to the programme. They may continue their studies at a master's level. In the field of Healthcare and Sport Sciences, the offered master's courses are Management of Nursing Care (24), Public Health and Health Management (25). Regulation No. 1 of 22.01.2015 on acquiring a specialty in the healthcare system by the Minister of Health gives the opportunity to

physician assistants and feldshers to specialize in several clinical and non-clinical specialties. Their right is defined, along with the other professions, diversified internally, in the field of nursing care. The possible clinical specialties are "Device support of extracorporeal blood circulation", "Paediatric nursing care", "Psychiatric nursing care", "Specific care for patients with oncological diseases", "Emergency medical care" and the non-clinical are "Hospital hygiene (prevention and control of infections)", "Geriatric nursing care", "Breastfeeding and healthy and dietary nutrition consultant", "Clinical social work", "Public healthcare", "Primary nursing care". (30). Physician assistants are allowed to train in other professional fields, but this does not contribute to their knowledge and skills in medical practice.

In 2024, an Act was passed to amend and supplement the Act on the Professional Organizations of Nurses, Midwives and Associated Medical Professionals, Dental Technicians and Pharmacists' Assistants (20), which established an independent professional organization of physicians' assistants and feldshers in Bulgaria. The organisation that unites them is the Bulgarian Association of Physicians' Assistants and Feldshers (BAPAF) (27) and is a step towards strengthening their position and expanding their powers in the healthcare system. BAPAF aims to represent the interests of physician assistants and to support their efforts to improve their position in the field of medical care. The profession of physician assistant was included in 2016 in the list of regulated professions in Bulgaria and defines the activities that can be performed independently or by appointment by a physician (31). The changes further extend the autonomy of PAs, especially in the context of lack of access to medical care in remote areas of the country.

DISCUSSION

A comparison of the United States and Europe in terms of the emergence and development of physician assistants reflects key aspects of differences in their establishment and development. The PA guild in the US represents a significant critical mass - over 150,000 practitioners by 2020, very well regulated, standardised and licensed nationally. PAs have some autonomy in the U.S., especially in performing certain procedures under physician supervision. The development and implementation of training programmes and

professional standards in Europe are at a relatively early stage. However, different countries have different models of the profession - with the UK practice of Physician Associates and the German practice of *Arztassistenten*. Best practice is about developing collaborative skills and training PAs to address shortages of medical staff, particularly within so-called 'health deserts' (1). Policies aimed at improving health worker retention through better working conditions and career development opportunities are essential to address the problem.

The good practice of physician assistants contributes to many important elements to improve the quality of health services and optimize the health system. Although still limited, there is some interest in developing PA specialisation programmes in regions experiencing shortages. Such programmes can provide additional clinical training and thus increase the level of competence of PAs. In the United States of America, the certification of PAs is precisely regulated and includes an examination process that ensures a high level of competence and quality of health services (15). In Europe, PA certification is not standardised and varies from country to country, so the introduction of uniform programmes would further improve the recognition and autonomy of PAs. Multidisciplinary teamwork of PAs is an important practice that improves coordination and quality of health services. Physician assistants work closely with the physician, nurse practitioner, and other health care providers to provide comprehensive services. Medical assistants need continuous training and development to maintain a high level of competence and to be adaptable to new medical technologies and practices (2). This is an opportunity for PAs to be an even more significant part of the system - by working in remote regions where the workforce is scarce or in specialties where there is a real shortage of specialists.

Specialization opportunities for physician assistants greatly increase their efficiency in health care and allow for the relief of physician workloads. In the United States, physician assistants work in a variety of specialties while providing care under the supervision of a physician (29). This allows physicians to meet physician-specific clinical activities in a timely manner. European countries that are lagging behind in the development of PA could introduce opportunities for specialisation for

physician assistants as it will improve their integration into the healthcare team and improve medical care.

This would streamline their work and distribute some of the burden to doctors, especially in remote areas and in shortage specialties. Specialty PAs could also improve their autonomy to perform certain specific medical procedures, making them more time efficient, thereby reducing physician workload and improving health outcomes. The introduction of specialised health care programmes could thus create more opportunities to address workforce shortages in health care delivery, in addition to improving the overall quality of health services (28).

The scope of PA practice in Bulgaria is very limited compared to assistants in other countries such as the USA and the UK. PAs in these countries can specialise in significantly more medical areas than in Bulgaria. Even compared to Germany and the Scandinavian countries, in Bulgaria the opportunities for professional development and qualification of physician assistants are very limited. On the other hand, in Germany, the UK and Bulgaria, PA or similar professions are developing slowly and are not yet as widespread as in the US. In Germany, PAs work in hospital settings, but their credentials are not fully recognized or standardized. In the UK, Physician Associates work under the supervision of physicians and do not yet have full autonomy. In Bulgaria, physician assistants are in the process of establishing and expanding their role but still have limited authority.

Broadly speaking, PA training programs around the world have the same goal - improving the quality of medical care and reforming the health system by expanding the types of medical professionals on health teams.

CONCLUSION

The specialisation of physician assistants is a key factor in the development of the profession and of health systems as a whole. It allows PAs to be more effectively integrated into health teams, to improve the quality of health services and to ease the workload of physicians. The specialisation of PAs not only improves their autonomy and competence, but also helps to address staffing shortages in health care, especially in remote areas or in specialties with staff shortages. The introduction of targeted PA programs will improve health outcomes and

optimize health systems by expanding the functions of health teams. Therefore, specialization of PAs is an important step towards health system modernization.

The United States has led the way in the development of the physician assistant profession, offering a model that is widely accepted and defined. In the U.S., PAs are trained to work across specialties and provide care under the supervision of physicians, allowing tasks to be distributed more efficiently and reducing physician workload. This model has been successful and is used as an example for other countries. In Europe, Canada, Australia and other countries, there is an opportunity to apply best practices from the United States by adapting them to local health systems and needs. The introduction of PA into the health care system in Europe is still in its early stages, but there is potential for development. Successful models from the US include graduate programmes, certification and participation in multidisciplinary teams.

Regulation, standardisation and investment in education and certification are needed to develop and consolidate the role of physician assistants across health systems. In Bulgaria, for example, physician assistants are pushing for regulatory changes that would expand the status of the profession and allow for more focused training in master's programmes to enable them to work effectively in specialised outpatient care and inpatient care. In the United States, physician assistants are certified through national examinations, which ensures a uniform level of competence. In Bulgaria, physician assistants are included in the register of regulated professions, but there is still room for developing their potential and their activities more closely. Investment in education and specialisation will increase the autonomy and competence of PAs and improve access to medical services for citizens. Therefore, a targeted government policy to develop the physician assistant profession and integrate it into the healthcare system has the potential to unleash the capacity of the entire system to deliver quality, timely and accessible care.

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