

COMMENT

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# How can educational institutes in Switzerland prepare physiotherapy students to implement advanced practice roles – a view point paper

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## Abstract

This viewpoint paper focuses on challenges for Swiss physiotherapy education institutes related to the transition towards evidence-based practice and the incorporation of advanced roles within the profession. To tackle such challenges, it is essential to establish structured pathways and competency frameworks and position physiotherapists as integral contributors to innovative healthcare.

**Keywords** physiotherapy, advanced practice, education, master's degree programs, competency frameworks

## Introduction

In the last two decades, the paradigm of physiotherapeutic decision-making in practice has changed from an empirical approach to an evidence-based practice philosophy. Integrating evidence-based practices with clinical expertise has transformed physiotherapists' (PTs) competencies and the broader scope of physiotherapy practice and education [1].

Physiotherapy (PT) has evolved significantly over time, much like any other healthcare profession. With demographic changes, there is a growing need to provide faster access to healthcare, improve efficiency, reflect on cost-effectiveness and cost-utility, and reduce waiting times. This has resulted in the need to educate advanced clinical professionals, operating beyond the entry-to-practice level for various healthcare professions [1, 2].

In English-speaking countries, especially in the musculoskeletal (MSK) area, advanced practice physiotherapists (APPs) have been widespread for some years [1, 3]. For example, PTs in the United Kingdom (UK) started working in advanced practice (AP) roles over 30 years ago to address skills shortages and reduce long waiting times for orthopaedic patients. The new roles include extensions related to traditionally performed medical or therapeutic responsibilities, such as diagnostic reporting, identifying potential surgical candidates, ordering diagnostic imaging and performing soft tissue and intra-articular injections. Furthermore, since 2013, APPs in the UK have been allowed to prescribe medication [4]. US Army PTs safely examine patients with and without physician referral, order diagnostic imaging, prescribe medications,

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order laboratory tests, refer patients to other practitioners, initiate duty restrictions, and perform electromyography and nerve conduction studies [5].

Defining advanced practice physiotherapy (APP) and establishing the competencies of these practitioners is a complex task that necessitates global consultation and agreement. The terminology might need to be harmonised with existing regionally recognised professional standards, akin to levels like “registrar” and “consultant” found in the medical field in the UK [6]. In this comment paper, the authors followed the Chartered Society for Physiotherapy (CSP) definition of AP, integrating advanced skills, knowledge, and attitudes that enable PTs to address complex problems and manage risk in unpredictable contexts. Advanced clinical practice includes progressive critical thinking to safely and competently deliver care to patients with complex needs [7].

In recent years, the integration of APPs has also been introduced and widely discussed in Switzerland. According to the position paper on “Swiss Advanced Physiotherapy Practitioners” [8], APPs should deal with demographic challenges, inpatient and outpatient shortages of skilled workers, and cost containment. For example, the direct medical costs for all MSK complaints for the year 2011 in Switzerland were estimated at CHF 11'380 million (approx. € 11'811 million) [9]. Circumstances such as the lack of skilled personnel, the significant increase in the ageing population, prevalence of multimorbidity and chronically ill people, and increasing healthcare costs lead to the creation of new care models [10]. Some Swiss hospitals and clinics already employ APPs [11]. At the Bern University Hospital (Inselspital), the first consultations of shoulder and knee patients by APPs were implemented several years ago. The first pilot study with PTs in the emergency department (ED) was completed in 2021 [12]. In 2019, it still had to be determined precisely which tasks the APPs cover and where the boundary between the usual field of physiotherapy work and an extended role function lies [11]. However, the results from the pilot study at the Bern University Hospital suggested that the PT consultation service could improve the quality of care through interventions, including taking a medical history, performing manual tests and multimodal treatment, and developing recommendations for further treatment. The results showed that medical imaging was not prescribed for most patients, and there was evidence that pain medication prescriptions and patients' sick leave could be reduced [12].

Furthermore, patients' satisfaction was reported as very good to excellent (88%). These findings align with the literature, reporting that APPs provide similar diagnostic accuracy to physicians and appropriately identify patients who will benefit from surgery [13, 14]. Research showed that patients who receive care from APPs in emergency

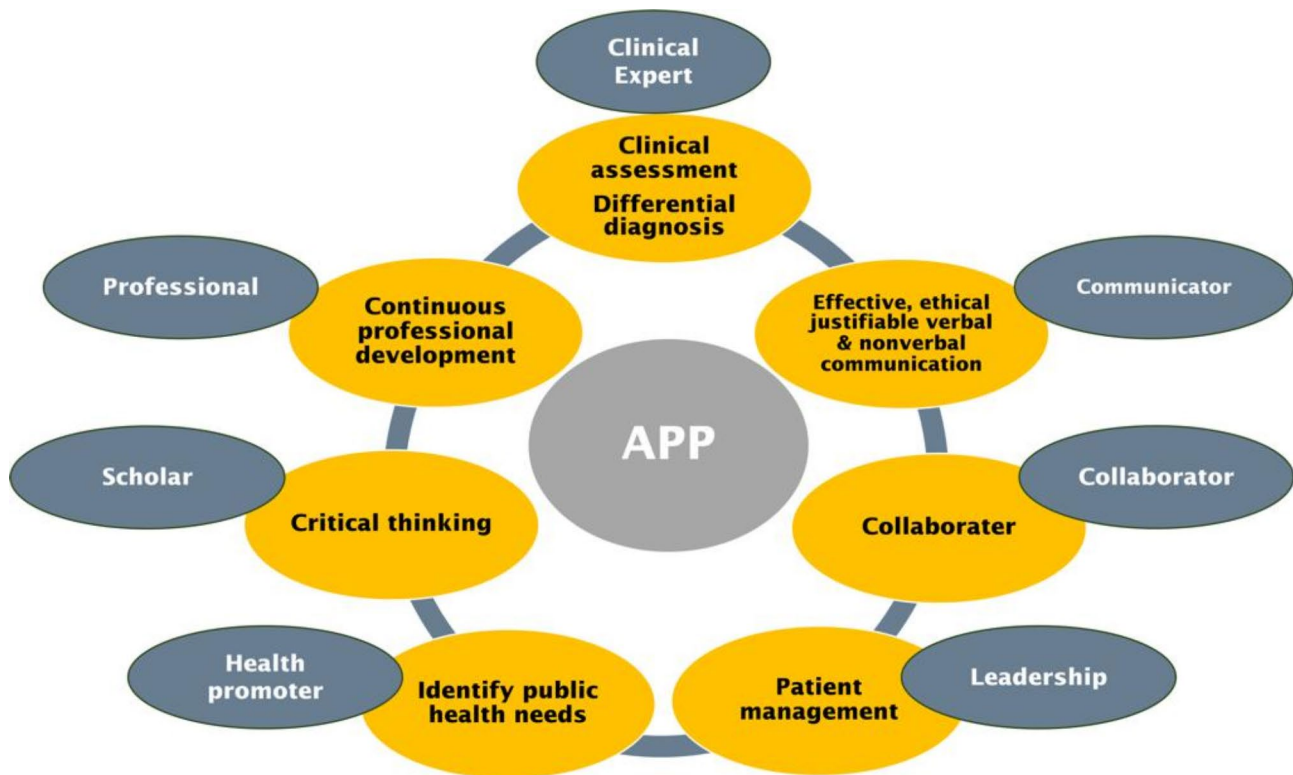
hospitals experience better short-term outcomes and improved patient satisfaction than those who receive routine care [15–19]. However, the roles of PT APPs in Switzerland lack legal regulation under the current federal health profession legislation. This comment paper discusses the current status of AP in PT in Switzerland compared to other countries. It also delves into the country's necessary development, implementation, scope, and extent of AP in PT. Furthermore, the paper explores how educational programs can be tailored to prepare PT students for the future of AP in Switzerland.

### Comment statements

The Swiss universities of applied sciences (UAS) offer tertiary A level bachelor's and master's degree programmes for specific (health) professions and conduct applied research (in the different health disciplines). Despite the commendable efforts made by the UAS to adapt PT education to the evolving healthcare landscape, challenges persist in fully integrating AP roles into higher education curricula. The Master of Science in Physiotherapy (MScPT) programs offered by Swiss UAS demonstrate a commitment to specialisation, with focus areas encompassing MSK PT, neurorehabilitation, pain PT, sports PT, pediatric PT, and professional development. These specialisations align with the diverse needs arising from demographic changes and emerging healthcare trends.

There is a need for more consistency in incorporating AP roles (see Fig. 1) across specialised PT programs. A standardised approach is necessary to ensure PT graduates obtain the required skills and competencies for entry-level PT [20] and AP in different healthcare settings. The lack of uniformity in integrating AP roles into curricula could lead to disparities in the preparedness of PTs entering the professional field. An ongoing debate surrounding APPs frequently centres on balancing years of clinical experience with the qualifications gained through formal education. This issue raises important questions about the value of practical expertise versus academic credentials in defining professional competence [21]. Consequently, this should be regulated, as education competencies alone cannot lead to becoming a clinical expert.

Moreover, a noteworthy challenge is the absence of a national governance framework specific to APP competency within MScPT education. A unified framework would not only provide clarity on the expectations for AP roles but also contribute to a more cohesive and standardised approach to PT education. Additionally, the limited recognition of advanced-level practice roles in the legal realm poses challenges for PTs seeking to engage in these AP roles professionally. Establishing legal acknowledgement is crucial for creating an environment that supports and values the contributions of PTs in AP.



**Fig. 1** APP model, the roles are illustrated in grey and the components in yellow

Collaboration between educational institutions, professional bodies, and legal entities is paramount to address these challenges. Establishing a national framework for APP competency within MScPT education would involve engaging in a dialogue that considers the unique demands of each specialisation while ensuring a foundational set of competencies applicable across all AP domains. Concurrently, efforts to enhance legal recognition for specific AP roles could involve advocacy, collaboration with legal experts, and highlighting the positive impact of AP on patient outcomes and healthcare efficiency.

Those appointed to the role of AP healthcare professionals have undergone extensive training and possess advanced expertise and understanding in specific healthcare areas. They employ leadership skills to develop and deliver coordinated, evidence-based, patient-centred care. In allied health professions, the Advanced Practice (AP) model serves to support prevention, introduce new approaches to working that enhance health outcomes, and enable practitioners to make informed decisions in complex situations.

There is a considerable amount of literature available that describes the development and implementation of advanced practice (AP) competencies and skills in midwifery [22, 23], nursing [24–26], and physiotherapy [8, 11]. However, a clear description of AP roles in specialized PT areas is lacking.

While Swiss PT education has made important strides in specialisation and is adapting to contemporary healthcare needs, the next development phase involves fostering greater consistency and formal recognition of AP roles. This collaborative approach will not only elevate the quality of PT education but will also contribute to a more robust and well-acknowledged role for APPs in the Swiss healthcare system.

In the following paragraphs of this comment article, the authors focus on educational aspects when selecting some clinical areas.

#### **AP in neurological physiotherapy**

The UK [27, 28], USA [29] and Canada [30, 31] have expanded the APPs' role in neurological PT, where this area is well developed and includes extended competencies and autonomous practice.

To develop future fields of activity and the roles of APP, it is crucial to win the support of clinics, hospitals, and non-medical institutions as possible partners for implementing such roles. Furthermore, the knowledge transfer of consultant PTs in MSc educational programmes is paramount. For example, consultant PTs from the UK and Canada teach advanced-level skills which can be implemented in Switzerland. E.g., how APPs prescribe and implement all possible interventions for treating spasticity, including botulinum toxin injections and more

**Table 1** An adapted overview of the transversal competencies that healthcare professionals can demonstrate after completing an MSc. in health professions from Switzerland. These key competencies have been developed through coordinated work by members of the Swiss Health Conference (FKG-CSS). The UAS study programs for health have used the Canadian CanMeds 2015 model as their methodology

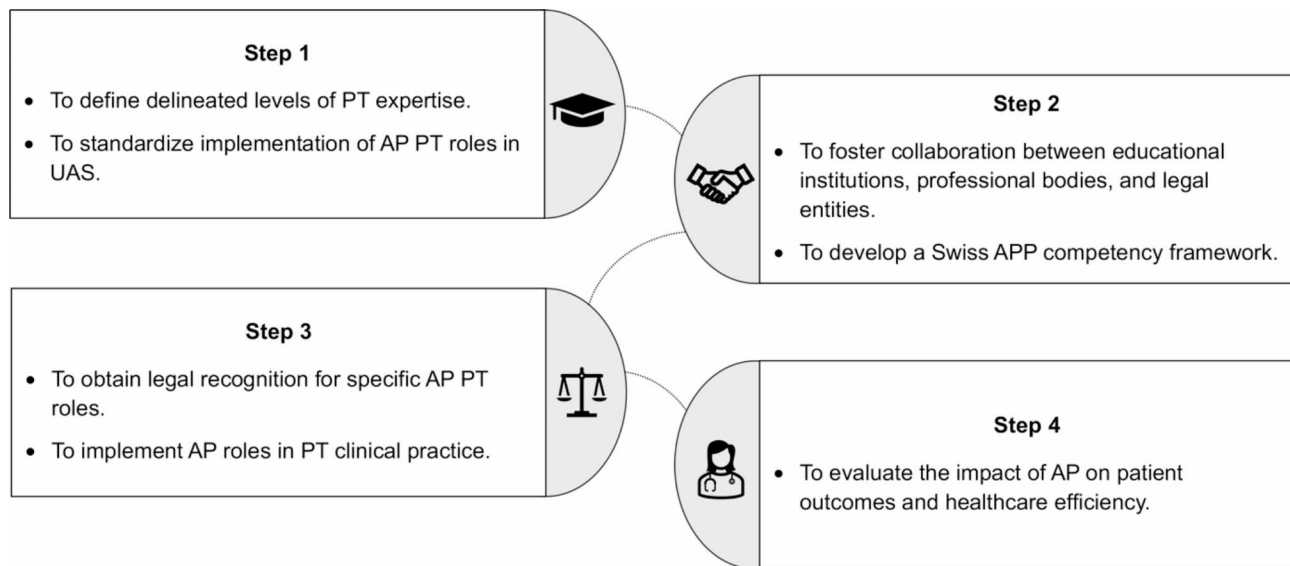
Rolle	Competencies
Clinical Expert	<p>Perform thorough clinical assessments and differential diagnostic evaluations independently, even in complex cases, whilst recognising the limits of his own competence</p> <p>Make appropriate, scientifically justified, and comprehensible decisions in planning preventive, diagnostic, and therapeutic measures, in collaboration with patients and clients.</p> <p>Ensure patient safety and need-based care by developing and implementing evidence-based treatment and care concepts.</p> <p>Lead and implement innovative healthcare projects through intra- and interprofessional collaboration.</p> <p>Recognise opportunities and limitations of assistive technologies in new application fields and support their rational development and implementation.</p>
Communicator	<p>Promote conditions for effective, ethically justifiable verbal and nonverbal communication tailored to the recipients and the situation at hand.</p> <p>Promote ethical decision-making principles, reduce communication barriers, and ensure healthcare equality.</p> <p>Develop and implement shared decision communication recommendations for patients, clients, other healthcare professionals, and decision-makers, incorporating new technologies and communication models.</p>
Collaborator	<p>Facilitate successful collaboration in intra- and interprofessional teams by promoting mutual respect, active listening, and openness.</p> <p>Use collaborative and positive strategies to prevent, handle, and solve conflicts.</p> <p>Mobilize expertise and incorporate the insights of professionals, patients, clients, and/or family members to facilitate participatory decision-making.</p>
Leadership	<p>Initiate and improve work processes, interface management, and working conditions to enhance patient safety. Promote quality management and assurance to enhance the quality of care.</p> <p>As a role model, support the professional development of younger colleagues with a lifelong learning perspective.</p> <p>Initiate evidence-based changes in practice, taking into account social, environmental and health economic evaluation studies.</p>
Health promotor	<p>Identify and prioritise public health needs and participate in designing and implementing measures for disease and injury prevention and health promotion.</p> <p>Advocate for ethical healthcare and equitable access to health services, defending the interests of patients and clients within the healthcare system.</p> <p>Promote health literacy and expertise among patients and clients and their families as well as among health care professionals through information and counselling.</p>
Scholar	<p>Critically analyse their competencies and take personal responsibility for their continuous development.</p> <p>Contribute methodological competencies to research projects and implement findings and recommendations into practice.</p> <p>Provide professional expertise to national and international committees and congresses and serve as a point of contact for inquiries related to the field.</p> <p>Educate future generations by actively engaging in training and participating in further education efforts.</p>
Professional	<p>Actively participate in the continuous development of sustainable professional practices guided by professional ethical principles.</p> <p>Analyse healthcare practices, identify areas for development, initiate practice development projects, and contribute to their implementation and evaluation.</p> <p>Engage as crucial contact points for institutions, the public, and policymakers on healthcare and/or health promotion matters.</p> <p>Advocate for the development and positioning of the profession within the healthcare system and participate in shaping the political, regulatory, and financial framework.</p>

traditional PT interventions such as serial cast Functional Electrical Stimulation (FES) and strengthening. These PT skills are applied in an interprofessional setting where collaborative decision-making with medical, nursing, and other therapy staff is crucial to achieving optimal patient outcomes [32, 33].

Although “non-medical prescribing” is not possible in Switzerland, a thorough understanding of the influence of different types of medication on muscle tone, spasticity, and function is crucial for PTs to set realistic treatment goals and formulate appropriate treatment plans in collaboration with interprofessional teams.

The necessary reasoning to enable collaborative exchange in interprofessional teams and the clinical skills to provide APP are needed to identify the gaps, needs, barriers, and facilitators to change within the healthcare system.

It is crucial to provide master students with high-quality information and guidance on clinical practice change management to support their evidence-based practice, supporting their potential role as knowledge transfer and implementation specialists. Creating a governance structure, elaborating a toolkit including clinical pathways, quality indicators, measurement tools, and developing



**Fig. 2** Flowchart proposing the necessary steps to implement AP PT roles in the Swiss healthcare system

indicators to measure the level of implementation and outcomes are essential to acquiring and applying evidence-based practice.

#### AP in musculoskeletal physiotherapy

APPs for patients presenting to the ED with MSK pain are already well established in Anglo-Saxon countries, where ED PTs also see patients in first contact and provide case management for these patients [34–37]. As an example, the AP roles and the effects of direct access (DA) to PT on seventy-eight patients with a MSK disorder in the ED in Quebec City, Canada, were evaluated by conducting a randomised controlled trial. Patients presenting with MSK disorders to the ED with DA to a PT had better clinical outcomes as compared to patients without DA. They used fewer services and resources than those in the usual care group after ED discharge and up to three months after discharge [38].

In German-speaking countries, such a care model has yet to be implemented. However, a pilot at a university hospital in Switzerland has evaluated first experiences with early access to PT in the ED with promising results [12].

Within the MSK focus area of the MScPT program, students are taught by experienced APPs from the United States of America, Australia, and Switzerland. They can gain relevant practical experience during their hospital internships to learn the skills to treat complex patients safely, effectively, and efficiently.

#### AP in sports physiotherapy

The competencies of sports PTs were designed to describe attributes of an MScPT level. The MScPT level is considered the entry-level of the sports PT speciality

involving extensive knowledge and skills demonstrating critical reasoning, flexibility, creativity, independence, and leadership [39].

The Swiss Sports Physiotherapy Association (SSPA) and other experts in the field were involved in developing the MScPT curriculum in sports PT at different Swiss UAS.

In cooperation with the Swiss Olympic Association, the SSPA composed a continued professional development pathway describing AP roles for sports PTs at three different accreditation levels (A, B, C). An MScPT degree in sports PT is a precondition for SSPA members who apply for a registered international sports PT certification.

#### Call for action

In response to the evolving healthcare landscape and the growing need for specialised expertise, a decisive call for action is imperative to expand the roles of AP and consulting PTs in Switzerland. Similar to the well-established model in sports PT, where expertise levels are delineated, this comment article advocates for developing a structured professional pathway for other PT specialities. Collaboration between educational institutions, professional bodies, and legal entities is paramount to address these challenges. This strategic move enhances the professional growth of PTs and positions them as integral contributors to the broader healthcare system.

The recommendation emphasises the importance of clearly defining and expanding the roles of AP and consulting PTs. Such an expansion represents a pivotal step toward fostering expertise and assuming increased responsibilities within the dynamic healthcare environment. By delineating specialised pathways for different PT domains, Swiss practitioners can excel in their



chosen fields and contribute meaningfully to patient care and outcomes. Despite the Swiss UAS's preparation and training of PTs to meet the requirements of an advanced professional level, there is a dearth of political and professional awareness to promote and implement legislation for AP in PT practice. Consequently, highly skilled graduated PTs are compelled to migrate to related occupations, such as research or education, where their qualifications are recognized or perform the same traditional physiotherapy tasks as their less-skilled undergraduate PTs.

In Switzerland, the success of this initiative depends on the UAS. With their master's degree programs and established research departments, UAS are well-positioned to define and implement the expanded roles for PTs. Taking on this responsibility entails a commitment to innovative educational approaches that align with the changing needs of healthcare. Through continuous collaboration with legal institutions and clinical partners, UAS can pioneer the development of a comprehensive competency framework that sets the standard for AP in Swiss PT.

Central to this call for action is exploring and developing a Swiss APP competency framework. Such a framework would serve as the guiding document outlining AP's essential skills, knowledge, and responsibilities. The creation of this framework requires a concerted effort involving academia, legal entities, and clinical institutions. It signifies a commitment to fostering innovation in education, aligning with evolving healthcare demands, and ensuring that PTs are well-prepared for future challenges. The graph depicts the flow of steps needed to ensure that the outlined strategies are practical and adaptable across various institutions, paving the way for a more integrated approach to healthcare delivery.

To successfully define new skills and roles for future Swiss PTs, there must be a collective willingness for innovation and cooperation. This involves breaking down traditional barriers between educational institutions, the Swiss Physiotherapy Association (Physioswiss), legal entities, and clinical settings. Collaborative efforts can drive the creation of a forward-thinking curriculum, address legal considerations for expanded roles, and establish a supportive environment for applying advanced skills in clinical practice.

## Conclusion

This call to action invites all stakeholders within the Swiss physiotherapy landscape to unite in a shared commitment to advancing the profession. The following steps are needed: Step 1: Define delineated levels of PT expertise and standardise the implementation of AP PT roles in UAS. Step 2: Foster collaboration between educational institutions, professional bodies, and legal entities and develop a Swiss APP competency framework. Step

3: Obtain legal recognition for specific AP PT roles and implement AP roles in PT clinical practice. Step 4: Evaluate the impact of AP on patient outcomes and healthcare efficiency. This collaborative effort is crucial for ensuring that the outlined strategies are practical and adaptable across various institutions, paving the way for a more integrated approach to healthcare delivery.

## Abbreviations

PTs	Physiotherapists'
PT	Physiotherapy
MSK	Musculoskeletal
APPs	Advanced Practice Physiotherapists
UK	United Kingdom
AP	Advanced Practice
APP	Advanced Practice Physiotherapy
CSP	Chartered Society for Physiotherapy
CHF	Confoederatio Helvetica Franc
ED	Emergency department
UAS	Universities of Applied Sciences
MScPT	Master of Science in Physiotherapy
MSc	Master of Science
E.g.	Exempli gratia
FES	Functional Electrical Stimulation
DA	Direct Access
SSPA	Swiss Sports Physiotherapy Association
BUAS	Bern University of Applied Sciences

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