EDUCATION AND TRAINING

Preparing physician associates to prescribe: evidence, educational frameworks and pathways

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ABSTRACT

There are approximately 2,850 physician associates (PAs) in the UK, and this number is growing. PAs are unable to prescribe due to an absence of statutory regulation and necessary prescribing legislation.

While PAs cannot prescribe, they must have an adequate level of pharmacology knowledge to safely manage patients. There is an expectation that this is taught as part of the core syllabus on PA programmes.

The Department of Health and Social Care (DHSC) recently announced the introduction of statutory regulation of Medical Associate Professionals (MAPs) that include PAs under the General Medical Council. With the introduction of regulation, PAs may be able to prescribe as part of their role. A working group is considering how this might be achieved in terms of education and supervision requirements, delivery of the training and scope of practice.

This paper explores the current approach to delivering pharmacology across UK PA programmes. We evaluate what constitutes acceptable training and assessment, and determine if programmes have the capacity to prepare students for prescribing rights. We compare UK PA programmes with those in the USA, with the V300 Independent/Supplementary Prescribing course and with the Prescribing Safety Assessment examination.

KEYWORDS: physician associate, prescribing, pharmacology, physician assistant

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Introduction

Currently, physician associates (PAs) cannot legally prescribe in the UK, although more than 70% report managing acute, emerging, and chronic conditions in their day-to-day roles.[1] A lack of prescribing rights is often cited as a hindrance to employment in both primary and secondary care and a limit to their scope of practice.[2–4] A 2016 satisfaction survey of UK PAs reported more than 30% do not feel they are being used to their full potential within the clinical team, which may be attributed to a lack of prescribing rights.[5]

With the introduction of statutory regulation through the General Medical Council (GMC), we anticipate consultation on whether PAs should be given prescribing rights and how this should happen: automatically upon passing the PA National Certifying Exam (PANE), after additional standardised assessment or after additional external independent prescribing training.[6]

We surveyed higher education institutes (HEIs) in the UK to understand how pharmacology is delivered and assessed. We compared this with the programme requirements and assessments in the USA, where the physician assistant (PA) training and profession is long established, and PAs can prescribe. We have considered how UK PA pharmacology curricula compare with the V300 prescribing course and the Prescribing Safety Assessment (PSA).

Current approach to teaching and assessing pharmacology for PAs in the UK

As of August 2021, 35 universities in the UK run PA courses.[7] In order to enter clinical practice as a PA, students must pass the PANE and re-certify every 6 years.

PA curricula are based on a medical model, where they are trained to diagnose, treat and manage patients. PAs are expected to work clinically and have the attitude, skills and knowledge to deliver care and treatment. The Competence and Curriculum Framework (CCF) for the PA in the UK includes therapeutics and prescribing as a core competency and part of the core syllabus.[8] The CCF matrix includes over 170 core clinical conditions rated 1A: conditions PAs should be able to diagnose and manage.[8] However, details concerning specific pharmacology content that must be taught and assessed was outside the remit of the CCF and no further guidance is given.

With limited detailed guidance nationally and no publications on pharmacological education in UK PA courses, we conducted a survey to assess and better understand how pharmacology teaching is currently being delivered and how students' knowledge is being assessed. The survey had 10 questions with yes/no and open-ended answers. The questions explored the development of the content, the actual content (percentage of applied

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pharmacology versus pure pharmacology, number of teaching hours and number of credits), the delivery (who delivers and modes of delivery) and the assessment (how students' knowledge is formally examined) of PA courses.

We surveyed all 34 universities (at the time) delivering the PA course in the UK via email and had a 59% response rate with 20 universities returning completed surveys. Ten of these were from PA courses embedded in medical schools and 10 were stand-alone courses. All universities who responded taught pharmacology to their students with various methods of assessment. The results of the survey are shown in Fig 1.

Over half of PA courses (13) do not have a separate pharmacology module: pharmacology is integrated throughout the course. In those courses with a distinct pharmacology module, the modules vary in credits from 15 to 40, where one nominal teaching hour is equivalent to 10 credits. The hours of pharmacology teaching in courses varied widely from 10 hours to over 400 hours (Fig 1b).

Most pharmacology curricula (17) were developed by a multidisciplinary team of physicians, PAs, nurses and pharmacists. Two courses were developed solely by pharmacologists and one course has adapted a pharmacology module to be bespoke for PAs. The delivery of pharmacology on most courses is multidisciplinary with doctors, PAs, clinical pharmacologists, pharmacologists and nurses providing teaching.

In terms of course content, most focus is on the clinical application of pharmacology compared with pure pharmacology, but this again varies widely, as seen in Fig 1c.

Courses use multiple assessment formats for pharmacology including a combination of formative and summative assessments with single best answer questions (SBAs), short answer questions, oral presentations, objective structured clinical examinations (OSCEs) and essays.

As 100% of the responders indicated that they are delivering and assessing pharmacology on their course, it is clear that the need for pharmacology teaching is widely recognised and PA courses have the capacity to deliver it. However, there is significant variability in this aspect of PA education. We recognise that this may lead to concern about a lack of standardisation of knowledge between new PA graduates; however, all PA students must pass the PANE before entering clinical practice. Forty per cent of the PANE covers managing patients, including clinical intervention and therapeutics assessed via SBAs.[8]

As PAs in the USA have prescribing rights, we know that their programmes deliver the right level of pharmacology education and have a standardised assessment to ensure prescriber readiness. We looked to PA programmes in the USA to see how their programme requirements and assessment compare with the UK.

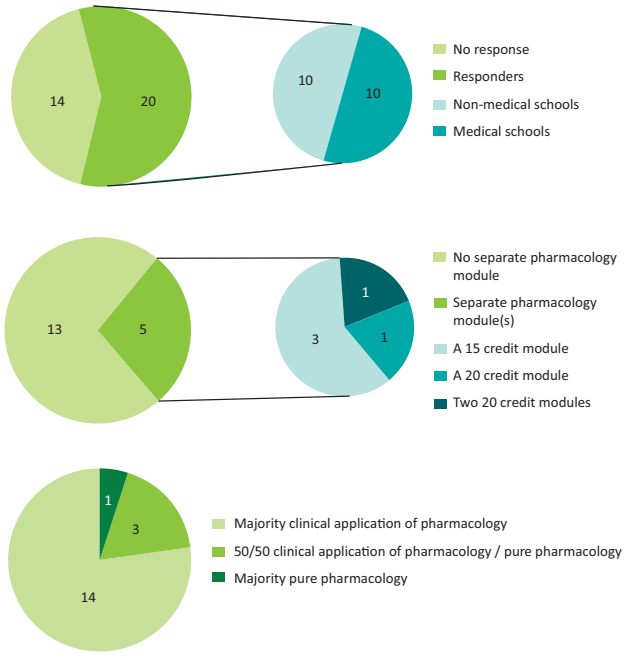

Fig 1. All 34 universities delivering the physician associate course in the UK were surveyed. a) Survey responses. b) Course approach to pharmacology. c) Course content.

PA education and prescribing in the USA

There are 149 accredited PA programmes in the USA dating back to 1965.[9] PA programmes in the USA are, on average, 26 months long and include 2,000 clinical hours. This is comparable with UK PA courses, which are a minimum of 21 months (or 90 weeks). The average number of pharmacology education hours in the classroom in US PA programmes is 75.[10]

PAs in the USA were first given prescribing authority in 10 states in 1980.[9] By 2007, PAs had prescribing rights in all 50 states.[9] All PAs in the USA are legally given national prescribing rights upon passing the Physician Assistant National Certifying Examination (PANCE); however, it is important to note that each state determines how and if PAs can prescribe controlled substances.[10]

The Accreditation Review Commission on Education for the Physician Assistant (ARC-PA) sets guidelines for PA schools in the USA. Similar to the guidance given to UK schools via the CCF, the ARC-PA guidance is very broad: all PA programmes must include pharmacology and pharmacotherapeutics in their curricula for accreditation.[11,12] There are no clear published data on the content of pharmacology taught in US PA schools, and with the broad guidelines from the ARC-PA, we surmise there is a similar variety in delivery and assessment across programmes as in the UK.

To enter clinical practice, all new graduates in the USA must pass the PANCE and re-certify every 10 years (every 6 years in the UK). The PANCE includes 300 multiple choice questions, where approximately one-third assesses management: clinical intervention (14%) and pharmaceutical therapeutics (18%).[12] The PANE has a similar breakdown to the US PANCE, which includes 200 SBAs (with 40% covering management) and 14-station OSCEs with 10% testing emergency management.[8]

We reviewed published evidence on PA prescribing patterns and quality in the USA. A 2018 cross-sectional analysis of more than 700,000 patient visits compared the quality of prescribing between PAs and physicians in hospital emergency departments and outpatient clinics and found the quality of care delivered was comparable.[13] Another study reviewed more than 150,000 patient visits and found that PAs and physicians prescribe medications in a similar proportion of primary care visits and were consistent in the number of medications prescribed per visit.[14]

PAs in the UK may be able to follow a similar pathway to prescribing as seen in the USA: graduating from an accredited course with pharmacology teaching and assessment, passing the PANE and then beginning clinical practice as an authorised prescriber. We recognise that there may be hesitation to this approach, as PAs are a relatively new career in the UK and other healthcare professionals who are eligible to prescribe must undertake additional training for prescribing rights. However, other non-medically qualified healthcare professionals are not trained on the same medical model as PAs and doctors and an additional prescribing course may be more warranted for these professions. Additional prescribing courses for PAs may be redundant, but necessary to ease hesitation and increase acceptance of PAs as prescribers. Likewise, this leaves a question of how currently practising PAs would be given prescribing rights: allowed to prescribe following regulation based on their non-medical prescribing qualification gained as a previous healthcare professional, after passing their next re-certifying examination or following additional training.

V300 Independent/Supplementary Prescribing course

If PAs are not given automatic prescribing rights after passing the PANE, another option may be to complete the V300 prescribing course or similar. Prescribing for non-physician healthcare professionals, also known as non-medical prescribers (NMPs) has been allowed in the UK since 1992, and it is estimated that there are nearly 60,000 NMPs.[15] This includes registered nurses, midwifes, pharmacists, paramedics, dietitians, radiographers and physiotherapists: all registered professionals who are not trained on a medical model to diagnose and treat patients. Following a period of defined post-qualification practice, these professionals can take the V300 prescribing course. After completion of the course and a period of supervision, NMPs can be registered as independent prescribers. Independent prescribers can prescribe any medication in the British National Formulary (BNF), unlicensed medications and all controlled drugs in schedules two through five.[1,2,6,8]

There are nearly 50 courses that have been accredited by the General Pharmaceutical Council. Typical courses consist of 10–15 taught days, 10–15 directed study days and 90 clinical hours. Development of prescribing competencies are managed through a programme of learning negotiated with a supervisor and assessor. The course aims to enable students to demonstrate the competencies outlined in the Royal Pharmaceutical Society's 2016 competency framework.[16]

The available evidence surrounding non-medical prescribers is overall positive: NMPs increase quality and access of care for patients. NMPs report a higher job satisfaction compared with their non-prescribing colleagues, and patients report satisfaction from NMP care.[15]

As this is an established method of teaching and assessing pharmacology to non-physician clinicians who are not trained on the medical model; we envision, at minimum, PAs will be permitted to take the V300 for prescribing rights. However, as PAs are trained to clinically diagnose, treat and manage patients in line with the medical model, this may not be the most appropriate route to prescribing rights.

Prescribing Safety Assessment

Another route to prescribing rights for PAs may be a bespoke assessment, separate to the PANE, and like the PSA for medical students. The British Pharmacology Society and the Medical School Council deliver the PSA. Prior to completing their foundation year 1 (F1), medical students must pass the PSA. Students are permitted to use the BNF, and the assessment focuses on eight areas of prescribing including prescription review, patient education and drug monitoring.[17]

The exam includes prescribing questions, where students read a scenario, choose a medication treatment and then prescribe the medication including dose, route and frequency.

The goal of the PSA is to ensure F1 doctors are safe for prescribing. The GMC lists outcomes for graduates and specifically states that 'newly qualified doctors must be able to prescribe medications safely, appropriately, effectively and economically and be aware of the common causes and consequences of prescribing errors' and the PSA aims to assess that.[18]

As PA students are trained on a similar model to medical students and will be regulated by the GMC, an examination similar to the PSA could be utilised for new PA graduates. Likewise, a similar exam could be established for qualified PAs and be administered by PA programmes or nationally. While this approach would still increase acceptance of PA prescribers in the medical community, it would be more manageable than enrolling all new graduate and practising PAs in a prescribing course, such as the V300.

Conclusion: pathway to prescribing rights for PAs in the UK

The *Interim NHS People Plan* foresees PAs continually developing as a critical role within the healthcare team and maximising the PAs' capacity to help alleviate some of the workforce pressure within the NHS.[7] In anticipation of PA regulation in the UK (pending Summer 2023), the NHS interim plan has also stated that 'We will work with DHSC to launch a consultation on introducing prescribing rights for PAs within 24 months of their regulation.'[7]

Prescribing rights are a key step in helping PAs increase their range of employment opportunities and maximise their scope of practice and role within the healthcare team. Studies have shown that PAs in the USA offer comprehensive care, increase access to care and provide continuity at a major cost benefit, and similar studies have shown the benefit of NMPs in the UK.[19]

However, the pathway for prescribing rights for PAs is currently still unclear. We have considered three distinct pathways for PAs to be given prescribing rights, all based on precedence from other successful routes.

One option is to follow the precedence of US PAs: giving UK PAs prescribing rights upon completion of the PANE. Like the ARC-PA, the GMC must outline accreditation standards including requirements of pharmacology teaching in PA schools. Like the PANCE in the USA, a significant portion of the PANE does cover managing patients. This does leave the question of the prescribing rights of currently qualified PAs and whether they should be given prescribing rights immediately with legislation change.

Another option is to add PAs to the list of professionals who are qualified to take the V300 prescribing course. We recognise the logistical limitations of this, as there are more than 2,000 PAs who would need to take the course along with the new graduates.

A third option to determine that PAs have the required knowledge and competency to prescribe is a PSA after graduation, prior to employment or prior to being legally permitted to prescribe.

It would be naive to suggest that newly qualified PAs would not require supervision to ensure safety of their prescribing. All new clinicians (PAs and others) should be given proper induction and supervision in a new role, not only for their diagnoses, documentation and procedures but also for prescribing and developing medical management plans. We advocate not only for rigorous pharmacology teaching and assessment on UK PA courses but also for a well-considered induction and supervision period with their supervising clinicians upon graduation, which could, for example, last 3–6 months based on individual progression.

We acknowledge that there may be resistance to prescribing rights for PAs in the UK, as PAs are a relatively new healthcare profession. We also believe there are a number of pathways through which newly graduating and practising PAs can be assessed for their prescriber readiness, which would help increase acceptance of PA prescribers in the clinical team. We believe prescribing rights will increase PA job satisfaction, increase their scope of practice and help minimise the healthcare burden in the NHS.

In future work, we plan to carry out a survey of practising PAs to see whether they felt equipped to propose treatment and management plans confidently upon qualifying. We will also examine the induction period and level of supervision into new roles.

We hope this paper contributes to the conversation around prescribing rights for PAs in the UK. Organisations should relish the opportunity to enable their PAs to work to their full scope of practice including prescribing rights when legislation allows. ■

References

1 Royal College of Physicians. *Focus on Physician Associates: Census 2020*. RCP, 2020. www.fparcp.co.uk/about-fpa/fpa-census [Accessed 30 September 2021].
2 Watkins J, Straughton K, King N. There is no 'I' in team but there may be a PA. *FHJ* 2019;6:177–80.
3 Halter M, Drennan V, Wang C *et al*. Comparing physician associates and foundation year two doctors-in-training undertaking emergency medicine consultations in England: a mixed methods study of processes and outcome. *BMJ Open* 2020;10:e037557.
4 Jackson B, Marshall M, Schofield S. Barriers and facilitators to integration of physician associates into the general practice workforce: a grounded theory approach. *Br J Gen Pract* 2017;67:785–91.
5 Ritsema T, Roberts K. Job Satisfaction among British Physician Associates. *Clin Med* 2016;16:511–3.
6 Department of Health and Social Care. *The Regulation of Medical Associate Professions in the UK*. DHSC, 2019. www.gov.uk/government/consultations/regulating-medical-associate-professions-in-the-uk [Accessed 30 September 2021].
7 NHS. *Interim NHS People Plan*. NHS, 2019. www.longtermplan.nhs.uk/wp-content/uploads/2019/05/Interim-NHS-People-Plan_June2019.pdf [Accessed 13 May 2021].
8 Royal College of Physicians. *Physician Associate National Certification and Recertification Exam Information*. RCP, 2021. www.fparcp.co.uk/examinations/overview [Accessed 20 May 2021].
9 American Academy of Physician Assistants. *Milestones in PA History*. AAPA, 2017. www.aapa.org/wp-content/uploads/2017/01/History_Milestones.pdf?__cf_chl_jschl_tk__=pmd_Uu2uvOuSH3CzXREBKuD3JiPzBI4C006KEYQVi6JCgYo-1632999431-0-gqNtZGzNAlCjcnBszQpl [Accessed 30 September 2021].
10 American Academy of Physician Assistants. *PA Prescribing*. AAPA, 2017. www.aapa.org/wp-content/uploads/2017/03/f-833-4-8256527_dk6DMjRR_Prescribing_IB_2017_FINAL.pdf [Accessed: 26 October 2021].
11 Accreditation Review Commission on Education for Physician Assistants. *Accreditation Standards*. ARC-PA, 2021. www.arc-pa.org/accreditation/standards-of-accreditation [Accessed 13 May 2021].
12 National Commission on Certification of Physician Assistants. *Content Blueprint Task Areas*. NCCPA, 2021. www.nccpa.net/examscontentbptasks [Accessed 13 May 2021].
13 Jiao S, Murimi I, Stafford R *et al*. Quality of prescribing by physicians, nurse practitioners, and physician assistants in the United States. *Pharmacotherapy* 2018;38:417–27.
14 Hooker R. Physician assistant and nurse practitioner prescribing: 1997-2002. *J Rural Health* 2005;21:355–60.
15 Cope L, Abuzour A, Tully M. Nonmedical prescribing: where are we now? *Therapeutic Advances in Drug Safety* 2016;7:165–72.
16 Royal Pharmaceutical Society. *A Competency Framework for all Providers*. RPharmS, 2016. www.rpharms.com/Portals/0/RPS%20document%20library/Open%20access/Professional%20standards/Prescribing%20competency%20framework/prescribing-competency-framework.pdf [Accessed 30 September 2021].
17 British Pharmacological Society. *Prescribing Safety Assessment*. British Pharmacological Society, 2021. https://prescribingsafetyassessment.ac.uk [Accessed 30 September 2021].
18 General Medical Council. *Outcomes for graduates*. GMC, 2019. www.gmc-uk.org/education/standards-guidance-and-curricula/standards-and-outcomes/outcomes-for-graduates/outcomes-for-graduates/outcomes-2—professional-skills#prescribing-medicines-safely [Accessed 30 September 2021].
19 Hooker R, Everett C. The contributions of physician assistants in primary care systems. *Health and Social Care in the Community* 2012;20:20–31.

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