



Contents lists available at ScienceDirect

Research in Social and Administrative Pharmacy

journal homepage: www.elsevier.com/locate/rsap

A Pharmacist Clinician Model as part of a collaborative clinical workforce: A philosophical critique

Gordon F. Rushworth^{a,b,*}, Paul Forsyth^c, Andrew Radley^{d,e}, Catherine Duggan^f, Rod Sampson^g, Scott Cunningham^a, Barry Maguire^h

^a School of Pharmacy & Life Sciences, Robert Gordon University, Aberdeen, AB10 7GJ, UK

^b Highland & Islands Pharmacy Education & Research (HIPER), NHS Highland, Inverness, IV2 3UU, UK

^c Clinical Cardiology, Pharmacy, NHS Greater Glasgow & Clyde, Clarkston Court, 56 Busby Road, Glasgow, G76 7AT, UK

^d Public Health Pharmacy, NHS Tayside, UK

^e School of Population Health and Genomics, University of Dundee Medical School, Ninewells Hospital, James Arrott Dr, Dundee, DD2 1SG, UK

^f International Pharmaceutical Federation (FIP), UK

^g Cairn Medical Practice, Culduthel Road, Inverness, IV2 4AG, UK

^h Philosophy, Psychology, and Language Sciences, The University of Edinburgh, 40 George St, Edinburgh, EH8 9JX, UK

ARTICLE INFO

MeSH Key Words:

Pharmacists, clinical
Autonomy, professional
Competence, professional
Workforce
Clinical skills
Competency-based education

ABSTRACT

The term ‘clinician’ is not reserved for any healthcare professional group. However, there is a general acceptance that a clinician would have the knowledge, skills and behaviours to enable them to clinically assess and manage a patient autonomously. The expectation, in a modern collaborative healthcare system, is that this work would be completed as a part of a planned and integrated multi-disciplinary care delivery structure, where any given clinician delivers a devolved element of that patient’s care. Forthcoming changes to regulation and professional development pathways in the UK will have a profound impact on pharmacist professional identity and practice. From 2026, all new UK pharmacist registrants will have full independent prescribing rights. A paradigm shift is expected to enable the development of a *Pharmacist Clinician Model*, incorporating pharmaceutical care needs with wider clinical assessment, diagnostic, and clinical management responsibilities. Consideration is given to this model and its implications. Changes to regulation, policy, education, and the governance required to deliver safe and effective pharmacist clinicians are outlined. A philosophical critique on the nature of being a clinician, and the differentiation of pharmacist clinician roles compared to other healthcare professions, is given. A further examination of the projected risks and expected benefits of this transformative practice model are then explored.

1. Introduction

Across the United Kingdom (UK), a significant regulatory change will see all pharmacists at point of registration from 2026 onwards with full independent prescribing rights, akin to those of doctors or dentists.¹ These prescribing rights provide pharmacists with an opportunity to realise the value of the profession as part of a collaborative healthcare team. It necessitates a reconsideration of the division of clinical workload in response to the evolving skillset of pharmacists and seeks to evolve the professional identity of pharmacists as clinicians.

A recent scoping review by Keller et al., looked to explore how pharmacists perceive their own professional role and identity.² They describe five major identity themes: clinician; dispenser;

businessperson; patient counsellor; and physician supporter. While ‘dispenser’ was noted to be the most prevalent across the sectors, it was viewed by many as undesirable. The pharmacist ‘clinician’ role was regarded as the most desirable identity but was also considered by many to be aspirational.

The recent *Collaborative Care Model* argues for the wide-scale professional amalgamation of the pillars of practice namely: clinical practice, management and leadership, education, and research, into all future professional roles.³ It models pharmacists as autonomous caring participants playing their part in a dynamic integrated collaborative response to health. This is a model in which participants have a shared mandate: both the wider role of properly managing public health, and the more specific role, that is caring for the patient in front of them. This

* Corresponding author. School of Pharmacy & Life Sciences, Robert Gordon University, Aberdeen, AB10 7GJ, UK.

E-mail addresses: ext.rushworth1@rgu.ac.uk (G.F. Rushworth), paul.forsyth@ggc.scot.nhs.uk (P. Forsyth), andrew.radley@nhs.scot (A. Radley), catherine@fip.org (C. Duggan), rod.sampson@nhs.scot (R. Sampson), s.cunningham@rgu.ac.uk (S. Cunningham), bmaguire@ed.ac.uk (B. Maguire).

<https://doi.org/10.1016/j.sapharm.2024.06.006>

Received 27 March 2024; Received in revised form 5 June 2024; Accepted 10 June 2024

Available online 15 June 2024

1551-7411/© 2024 The Authors. Published by Elsevier Inc. This is an open access article under the CC BY license (<http://creativecommons.org/licenses/by/4.0/>).

contrasts with an ‘atomistic’ workforce model, in which individuals typically have specialist jobs, often focused on only a singular constituent professional ‘pillar’. In the *Collaborative Care Model*, every participant has responsibilities for all four pillars. Everyone is involved to a greater or lesser degree in each of clinical care, education, leadership and research. The *Pharmacist Clinician Model* presented in this paper is an application of the *Collaborative Care Model* in practice.

The aim of this paper is to set out the distinguishing features of a *Pharmacist Clinician Model*, outlining the need for it, and offering a systematic approach to its safe development. We will critique a *Pharmacist Clinician Model* within the collaborative clinical workforce, by exploring:

- Definition of a ‘clinician’
- The need for pharmacists as part of the clinician workforce
- System requirements to operationalise a *Pharmacist Clinician Model* as part of a collaborative clinical workforce
- Differentiation among clinician professional characteristics

2. Definition of a ‘clinician’

For the purposes of this paper, the term ‘clinician’ is defined as a healthcare professional leading on the assessment, management and investigation of a given clinical presentation, where the clinician would be expected to have the prerequisite knowledge, skills and behaviours to autonomously and holistically navigate the clinical episode of care to a satisfactory conclusion, meeting a shared desired outcome for the patient.^{4,5} They will be competent to clinically assess patients using clinical history taking and examination skills; undertake clinical procedures and investigations as necessary; and have the legal right to independently prescribe healthcare interventions (including medicines). Ultimately the clinician should be able to formulate a management plan, working with the patient and their carers, that may include reassurance; monitoring; treatment (pharmaceutical or non-pharmaceutical); or onward referral to other healthcare professionals/care settings, as appropriate.

Building on the definition of a ‘clinician’ above, the term itself is not a reserved title, nor is it restricted to a particular professional group. Marcum outlines a theoretical model of the necessary intellectual virtues of the clinician.⁶ He sub-divided these to ‘reliabilist’ virtues e.g. ‘knowledge, perception and conceptual faculties’, and the ‘responsibilist’ virtues, which are longitudinally acquired through experience and exposure, and include ‘honesty, courage, open-mindedness, humility, fairness, curiosity, tenacity, and integrity’, within the patient-facing clinical setting. The paper argues that both are required to produce the clinician who can function across the cultures of science and humanities.

A clinician is *autonomous* rather than *independent*. A professional is independent if their choices are unlikely to be interfered with during their practice by legal or institutional constraints, or by colleagues. This notion of independence makes no presuppositions about the evaluative basis of individual choice. There are very few examples of independence in any form of healthcare. Autonomy is more substantive, involving the collaborative empowerment to care about things of value, and particularly about other people.⁷⁻⁹ Although intrinsically connected, this concept is somewhat distinct from the clinical responsibility one carries as a member of the clinical team, and the inherent accountability one has for the clinical care they deliver. Autonomy is suited to the intersection of two ideas: the ethos of playing one’s part in a collaboration, and that collaboration being designed to empower participants to care about others. Consequently, this distinction between independence and autonomy is that of isolated versus collaborative care delivery.

As a pharmacist clinician, therefore, autonomy is the empowerment and agency to act on one’s own values and skills, being directly accountable for the devolved delivery of patient care (or a component thereof) as part of a collaborative clinical team or healthcare system.

Collaborative clinical teams, whether in general practice or hospital-based, would still be expected to have a lead clinician with overarching clinical governance responsibility who would devolve autonomy within that structured clinical service. Traditionally this would be a doctor as a registered medical professional. Within the UK community pharmacy setting, contracts determine the nature of the devolved clinical care they would be accountable for on behalf of the wider collaborative National Health Service (NHS) system.

Central to a collaborative clinical team model is skills-based, rather than task-based, workforce design.¹⁰⁻¹³ This enables individuals to be adaptable, making better use of a workers’ skills, rather than curtailing individuals to an arbitrary or preordained lists of tasks. It permits skill mix within workforce design – where roles overlap due to overlapping skillsets of the constituent clinicians within that team. This creates a dynamic and responsive collaboration that is fit to meet the needs of the population it serves. Task-based workforce design makes it difficult to be responsive to the needs of the heterogeneous population, who present to the clinical team in a varied way. It diminishes the individual’s ability to use their own judgement within their job and demands they execute a set of tasks, rather than look to augment and discharge skills to meet the clinical demand. Skills-based workforce design empowers individuals’ autonomy within a collaborative healthcare system and develops a more natural and dynamic clinician collaborator. Within this context, clinician workforce design would best be served as skill-based rather than task-based workforce design.

3. The need for pharmacists as part of the clinician workforce

This section will have two parts. The first will outline some of the specific drivers for the need to develop pharmacist clinicians giving a contextual vignette of the Scottish NHS and recently reported health statistics for the Scottish population. The Scottish case is being used to draw attention to a more general global healthcare phenomenon. Advantages of pharmacist clinicians will then be outlined, as well as some potential concerns and principled objections.

3.1. Population healthcare need for pharmacist clinicians

Since 2020, the NHS has faced an unprecedented test to the delivery of care to the public in response to the COVID pandemic.¹⁴ The challenge of service provision during the pandemic was keenly and universally felt by all specialties, disciplines, and sectors of the NHS. To cope with the pressure and demands placed on it, the NHS evolved and adapted in real-time to face up to the clinical need of the age. Now, with the country in a post-pandemic recovery phase, the Scottish Government (SG) have called upon all NHS services to rethink how they can contribute to the burgeoning NHS workload, backlog, waiting lists and clinical pressure being exerted on NHS Scotland services. The SG have set out an NHS Scotland Recovery Plan.¹⁴ Within it they call for new ways of working and innovative thinking as to how services are delivered under unprecedented demand. Further to the recovery plan, and in support of it, the SG has recognised that if the NHS is going to find new ways of working, then it needs to review the workforce it requires for optimal functionality. The National Workforce Strategy¹⁵ will install a national workforce forum to consider these new ways of working and what workforce will be required to deliver future clinical care within NHS Scotland to meet current post-pandemic pressures, as well as addressing the population health need/inequality agenda.

The Scottish Burden of Disease study¹⁶ and the most recent Healthy Life Expectancy statistics¹⁷ (the number of years a person can expect to live healthy, rather than survive) within Scotland make for concerning reading. Figures predict an ageing population, with 21 % total increase in the burden of disease across all disease areas over the next 20 years. The Burden of Disease is calculated as a disease adjusted life year (DALY) where one DALY is equal to a year adversely affected by a disease e.g. hemiparesis post-stroke, or the difference between the

predicted life expectancy for an individual and the actual duration of life, in the context of the intercurrent illness. Most of this burden will likely appear in ageing populations residing in primary care due to pressure accumulated from long term conditions. The latest life expectancy figures have also shown a decrease in population life expectancy within Scotland.¹⁸ To summarise, the projections for our population in Scotland are that the population will live with increasing morbidity, decreasing years of healthy life, and an overall decrease in life expectancy. A recent article accepted by *The Lancet* has reported on global mortality data over the last 72 years and reports a similar picture to the Scottish context given.¹⁹ There is a need for clinicians, especially at the front-line of service provision, to improve treatment pathways and optimise benefits from treatment and screening of disease to reverse these pernicious trends.⁵ At a global level, changes in population and patient demographics also map to greater complexity in service provision and would suggest a consequent need to be able to endorse enhanced professional capabilities.^{20,21} Trends are clear and involve increasingly complex clinical and pharmaceutical care.²²

Pharmacists are well placed to develop their skills as patient-facing clinicians. They join the register with a sound understanding of medicines governance, clinical therapeutics, physiology and pharmacology, and soon - prescribing rights. They have a historical pedigree and centuries old heritage in the clinical assessment and management of patients, and one which should be reinvigorated enabling pharmacists to develop as clinicians.²³

3.2. Potential advantages

- **Efficiency:** the NHS is stretched, but pharmacist skills are underutilised.²⁴ Pharmacist clinicians could autonomously manage more clinical presentations, relieving pressure from other parts of the healthcare system without the requirement for inefficient onward referral. This is likely applicable in all sectors of practice: community, primary care, and secondary care. The growth of pharmacist clinicians would allow work previously completed by pharmacists to be devolved to other members of the pharmacy team e.g. pharmacy technicians and pharmacy support workers. In doing so, conferring professional responsibility, and growing the wider pharmacy professions to ensure a workforce enabled to utilise their skills and capabilities too.
- **Institutional need and opportunity:** the regulatory changes enabling all new pharmacists to be independent prescribers from 2026 onwards requires a more holistic understanding of their augmented role and a different attitude to patients and risk. Pharmacist prescribing also happens in countries out with the UK setting (Canada, New Zealand and parts of the United States).²⁵ In an overwhelmed healthcare system, more pharmacist prescribers would seem a welcome development.
- **Non-alienation:** prevention and restriction of pharmacist clinicians applying an augmented advanced clinical assessment skill set has been found to be alienating²⁴ and not being able to work at the full scope of practice has been noted as a cause of burnout.²⁶ Distress, as an unintended consequence of an individual being unable to execute the functions of their role as they perceive them, has been found in other healthcare professional settings too.²⁷ The assimilation of clinical pharmacology and therapeutics skills with broader clinical assessment skills, as well as the opportunity to practice care-delivery, is non-alienating. It allows a modality for pharmacist clinicians to be responsive to the values at stake, namely by caring about patients in their totality, by fully utilising their skills. Similarly, the pharmacist clinician risks becoming alienated from their values if they are prevented from caring about people in their totality, by focusing solely on medicines or pharmaceuticals.²⁸ This has been described as a 'fetishistic end' – or something which limits the value of the care given for its own sake.²⁹ This is ultimately our objection to the limitations inherent to the focus of pharmacist clinicians solely on

medicines. It limits the application of the evolved skillsets, and skills-based workforce design of pharmacist clinicians, and may be conjectured to limit the very development of the evolution of the skillset.

- **Accessibility and equality:** in some sectors of pharmacy practice, utilisation of a *Pharmacist Clinician Model* could reduce potential barriers to accessing healthcare expertise for the general public. In general, most community pharmacies operate a walk-in service allowing patients access to their local pharmacy at a time that suits them. It also redistributes the burden of care delivery and provides another point of access within the collaborative primary care system. In doing so, this potentially also addresses the health access inequality gap,^{30,31} something first described in the 1970s by the *Inverse Care Law*³² where those who need healthcare most, have the least opportunity or ability to access it.
- **Global workforce transformation:** The *Pharmacist Clinician Model* aligns with FIP's *Brisbane Calls to Action* consensus statement which advocates for: enhanced competency-based training pathways to better address population health challenges; enablement of pharmacists to work at full scope of practice, including prescribing; and optimisation of the skill mix in clinical settings.³³ While it is understood that global collaboration would be expected to accelerate workforce development,³⁴ it is also true that many countries do not currently permit prescribing rights for pharmacists. FIP have developed a 2030 strategy which is responsive to the heterogeneity of the global development of pharmacist roles, understanding that sustainable development must be contextualised within each region.³⁵ In 2020, FIP produced a set of Global Development Goals which can be used as part of a needs assessment for pharmacy workforce and policy development.³⁶ These have been used in 21 countries to map out country-specific pharmaceutical development goals.³⁷

3.3. Countering potential concerns and principled objections

- **Professional identity:** a recent scoping review noted there to be a lack of reviews of professional identity of practicing healthcare professions.³⁸ It went on to report on 160 studies across 17 healthcare professions – four of which related to pharmacist identity. The scoping review reported 'broad, varied and rich descriptions' of professional identity, but noted professional identity research to be under theorised and potentially inadequate to capture the complexity involved. Blurring the boundaries between pharmacists and other healthcare professional clinician groups, especially doctors, could create concerns about accountability, liability, and trust. While this is a good reason to have relatively settled roles and expectations. It is not a good reason for the sake of conservatism alone. An alternative role expectation is offered here that could be easily publicised. Pharmacist clinicians are to be trusted with the responsibilities of their role as defined and operating in line with nationally approved curricula, within a professional career framework, and within the expected Standards of Practice as defined by the GPhC Regulator.³⁹ As such, they will be accountable and liable for their own clinical decision and actions. There is already evidence that pharmacists operating in NHS England with these augmented skill sets identify as clinicians.⁴⁰ This builds upon a centuries-old heritage of pharmacist roles within the UK, stretching back past the establishment of the Pharmaceutical Society of Great Britain in 1841,⁴¹ all the way to our primordial ancestor – the apothecary, which we share with general medical practitioners.⁴²
- **Cost of training pharmacist clinicians:** while clinical teaching and training is expensive, it is an investment in clinical safety. The clinical training of pharmacists within the UK has already been adapted to incorporate independent prescribing teaching, previously conducted in the post-graduate space, into the undergraduate and pre-registration (FTY) years. More focus is required on robust systems for post-graduate training of pharmacist clinicians. As such,

investment in pharmacist training is deemed desirable to capitalise on this underutilised clinical workforce. The costs of this model would include: protected learning time for pharmacists; experienced pharmacist educators to supervise; appropriate clinical supervisors and assessors; and assessment costs. Within NHS England, 300 fully funded places have been offered to support the training of advanced pharmacists as part of training for existing roles.⁴³ It is important to acknowledge that every healthcare system (including the NHS) works within a finite funding structure. If funding is to be allocated to a *Pharmacist Clinician Model* then its cost-effectiveness, monitoring as well as research and evaluation are needed to assess its impact. There is good evidence of cost-effectiveness of pharmacist input to clinical care within hypertension.⁴⁴

- **Pharmacists risk management:** this is part of the 'skill set' relevant to the optimal division of responsibilities. Risk aversion is not the same as risk assessment and management – the former a learned response of risk identification and subsequent avoidance. Research has shown newly registered pharmacists are cautious of future prescribing roles.⁴⁵ In keeping with expanding roles, expectations and responsibilities, there is a need to adapt and enhance the pharmacist response to risk in a planned, structured and safe way during training. Interprofessional learning through simulation-based education has been shown to increase trainee pharmacist tolerance of ambiguity.⁴⁶ It is also possible to change the marketing concerning the profession. Over time, this will affect the kind of student that enters pharmacy and the attitude of pharmacists within the profession. Quite generally, the attitudes of the people in a system are partly endogenous to the system. By changing the structures and role-based expectations – especially in ways engineered to be more meaningful, social, responsive, and fulfilling – the attitudes and motivations of the participants will also change.

To mitigate some of the risk under a *Pharmacist Clinician Model*, pharmacists should be able to operate within the governance structure within their clinical setting.⁴⁷ This is likely to be nuanced to the sector of practice, usually hospital, general practice or community pharmacy. Within these structures, pharmacists must prescribe within their sphere of competence, in line with locally approved treatment pathways or protocols. Ideally, pharmacists should have read/write access to all pertinent medical records as well as have access to laboratory results and clinical letters. All clinical encounters must be recorded contemporaneously in the medical/clinical notes. Pharmacist clinicians must have appropriate indemnity insurance to cover their scope of practice activities.

4. System requirements to operationalise a *Pharmacist Clinician Model* as part of a collaborative clinical workforce

This section will give an overview of present-day education and training of pharmacists, the need for assurance and regulation to enable the development of a *Pharmacist Clinician Model*.

As previously mentioned, within the UK from 2026 onwards, pharmacists, doctors and dentists will be the only healthcare professionals who are independent prescribers at the point of registration. The main drivers for this are: optimisation of pharmacist's skills and knowledge; improvement of clinical healthcare capacity within the NHS; and evolution of the pharmacist workforce. The *GPhC Standards for the Initial Education and Training of Pharmacists* provide the regulatory expectations for this.¹ Regardless of the ultimate career destination of a pharmacist, all new registrants will be trained to cover basic 'clinician' functions - including consultation, prescribing and clinical skills - under the revised GPhC Standards.

Gearing of previous pharmacist training enabled pharmacists to become 'experts in medicines governance': how to dispense and supply medicines within the law; how to store, stock and transport medicines – including those in the cold chain; and how to control the prescribing

choices of medicines within healthcare systems down to individual patient level. Some went on to develop pharmaceutical care skills; however, using blanket phrases to describe the pharmacist profession as 'experts in medicines' without more nuanced thinking and explanation would seem unhelpful. It is also unrealistic to use the term 'expert' to describe a newly qualified pharmacist.⁴⁸ This seems inconsistent with views taken of other healthcare professional registrants – 'junior doctors', for example. Fresh thinking has been called for which looks beyond the historic preserve of pharmacist roles being solely responsive to the 'safe and effective use of medicines'.⁴⁸ There is a spectrum of pharmacist clinical practice which ranges from medicines governance activity, through pharmaceutical care input, to clinician type roles. Fig. 1 below depicts the increasing accountability for direct clinical care within each of these roles within the spectrum of clinical pharmacist practice while Fig. 2 depicts the increasing complexity of clinical decision making between different levels of practice.

While pharmacist clinical pharmacology, therapeutics, and prescribing skills at registration offer significant advantage in terms of healthcare service provision utility within the multidisciplinary team, further professional-cognitive changes are required in this new pharmacist clinician era.²³

- **Sequential skills development throughout the pharmacist career:** education and training innovations should be serially utilised to enable sequential skills development throughout the pharmacist career, starting with undergraduate education,^{49–51} leading through to opportunities for development of advanced pharmacist practice skills.^{52,53}
- **Training within the clinical environment and team:** the profession needs to be realistic about the product of the current training programmes – while undergraduate and Foundation Training Year (the training programme between graduating and registering as a pharmacist in the UK) will now include the prerequisite teaching to allow for prescribing rights at registration – there is an understanding that these skills need to be nurtured, supervised, and preceptored in early pharmacist careers to ensure they are embedded in practice. Supervised learning in clinical practice, including learning with other peer groups, is key to enabling development of pharmacist clinicians, and reflects the modern multidisciplinary environment where such pharmacists will work.

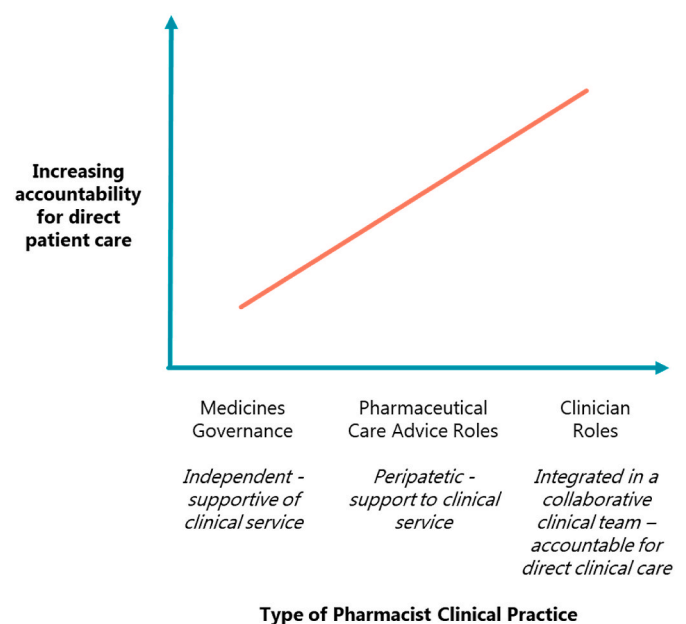


Fig. 1. Accountability for direct clinical care in relation to the spectrum of pharmacist clinical practice.

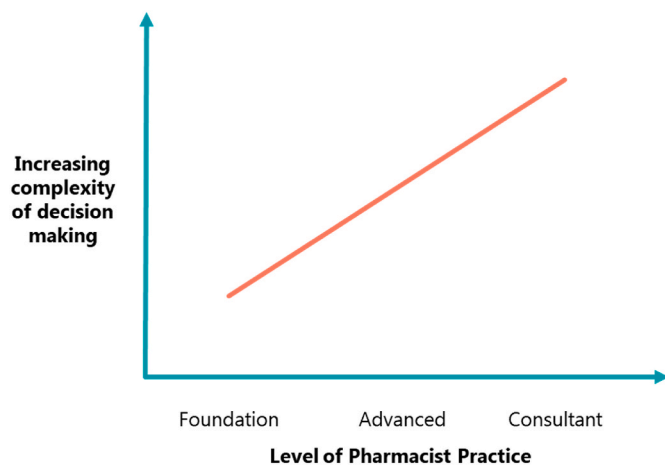


Fig. 2. Pharmacist clinical decision making at different levels of pharmacist practice.

- Training programmes and accreditation of practice:** consideration should be given as to the educational pathways required to support the development, assessment and accreditation of the prerequisite knowledge, skills and behaviours required to deliver competent pharmacist clinician practice. Competency based education (CBE) is the standard for medical colleagues and its application in pharmacist education and training has been acknowledged.⁵⁴ A survey by FIP across 48 countries found that 28 (58 %) had or were developing advanced practice frameworks.²¹ Educational pathways have now been developed within the UK by the Royal Pharmaceutical Society (RPS) and would support the development of pharmacists as clinicians as outlined above. These build on the UK Regulator (General Pharmaceutical Council - GPhC) *Standards for the Initial Education and Training of Pharmacists*.¹ Within the UK, a suite of three sequential CBE curricula support the safe development and expansion of the scope and level of pharmacist clinician practice across the four pillars from point of registration throughout the whole pharmacist career (RPS Post-Registration Foundation, Advanced & Consultant Pharmacist Curricula).⁵⁵⁻⁵⁷ Curricula are completed by pharmacists who curate a portfolio of formal written feedback of their observed behaviours in the form of supervised learning events (SLEs). This portfolio is assessed blind by a multidisciplinary panel, with subject matter experts in each of the four pillars. Those deemed to have met the standard are accredited by the RPS at the level of practice assessed in line with a robust governance process. Similarly, the International Pharmaceutical Federation (FIP) have recently published a Global Advanced Development Framework for the pharmacy workforce which also has CBE standards to be met across these four pillars.⁵⁸⁻⁶⁰ There is recognition that the supervision oversight required for pharmacists on training programmes will change according to the level of practice, the risk of the clinical activity, and the complexity of the cases seen. Healthcare systems and training providers will need to be adaptive to ensure robust clinical governance and appropriate clinical supervision is in place to protect patient safety.
- Need for assurance:** The RPS programmes above offer assurance as to the level pharmacist clinicians are operating at. The SLEs pharmacists complete as part of the portfolio give further assurance of clinical activities they are able to undertake. Entrustable Professional Activities (EPAs) have been used in medical education to enable those in training the opportunity to practice under less clinical supervision in instances where they have been signed off by senior clinicians as being competent at a given clinical task.^{61,62} This provides a robust assurance of what individuals are capable of doing and

what level of supervision they need and should be considered in pharmacist clinician training.

- Need for regulation:** The Nursing and Midwifery Council (NMC – Nursing and Midwifery Regulator in the UK) has recognised the risk associated with advanced nursing practice due to increased complexity and autonomy.⁶³ As such, the NMC have recently put to their Council a set of recommendations on the necessity to regulate advanced nursing practice within the UK.⁶⁴ They have called for a combination of approaches including: development of standards for advanced practice; development of UK-wide shared definition of advanced practice; and a call to establish revalidation of advanced practice for those operating at that level. The RPS Core Advanced Curriculum provides assurance for the first two of these for the pharmacist profession. Given the position statements of other non-medical regulators in the UK, there is now a definitive need for the GPhC to regulate advanced and consultant level practice within the UK.
- Need for educational governance:** educational governance structures should be created at an organisational level within the NHS to ensure the quality of the education and training which the NHS delivers its pharmacist employees. Investment in education and training by an organisation is an investment in patient safety and the quality agenda. There is a legal obligation for organisations to ensure that staff are appropriately trained to execute the functions of their job descriptions under the auspices of the Health and Care (Staffing) (Scotland) Act 2019.⁶⁵ This provides assurance of quality and structures to patients, staff and employees. The GPhC Regulator in the UK have also completed a consultation on Standards for Chief Pharmacists which stipulate that every organisation employing pharmacists are required to have a Chief Pharmacist who will be accountable for this educational governance agenda.⁶⁶
- Need for workforce planning:** pharmacists are not the only healthcare professional group that are expanding the scope of their practice. Pharmacists are not even the only pharmacy professional group that are looking to expand their practice. The scope of practice for pharmacy technicians, for example, will be expanded under new legislation from the UK Government with the expectation of that pharmacy technicians will now be included in the list of healthcare professionals who can work under the auspices of a Patient Group Direction (PGD – a focused protocol for non-prescribers to be able to issue prescription-only medicines to very specific groups of patients when meeting strict criteria).⁶⁷ With the expected increase in clinical roles, there has recently been a call from medical colleagues working as part of a BMJ Commission on the Future of the NHS to ensure there is ‘task and team design’ and that ‘scope and boundaries of practice’ are considered when new roles are workforce configurations are in the planning stage.⁶⁸ The underpinning necessity for pharmacist clinicians to operate as part of a collaborative care model makes this planning and integration essential.
- Need for research and evaluation:** as with any service development, there needs to be consideration of how best to evaluate and monitor any new model once it is introduced.⁶⁸ These evaluations should focus on multiple facets of the change including: improvements to population healthcare; acceptability to patients, staff and other service users; evaluations of the implementation of the behaviours both at the individual and system level; evaluation of the career and training pathway.

5. Differentiation among clinician professional characteristics

This section will compare and contrast professional characteristics of pharmacist clinicians with one of the other healthcare professional groups that have legal prescribing rights at point of registration, doctors. The professional expectation as set out in this paper suggests both be considered clinicians: the healthcare professional with whom a patient will consult directly in any given healthcare professional contact. We

have expounded the case for the development of pharmacist clinicians from clinical capability, through regulatory changes, and linked to population health need. The pharmacist clinician draws upon a composite skill set including clinical assessment, diagnostic, investigative and clinical management skills, which is not restricted to clinical pharmacology and therapeutics. The convergent and divergent characteristics between the professions, and the application of their skills, as part of a collaborative clinical healthcare system will now be discussed.

5.1. Convergent characteristics

- **Care:** a clinician is expected to care about a patient at a human/personal level.⁶⁹ For Blum, this is a condition not merely of caring well, but caring about someone at all. He offers the following analogous example of a teacher: 'if the only object of a teacher's concern is making sure that a pupil understands a certain subject matter, then this teacher does not exemplify teacher caring. To be caring, the concern must involve some regard for the pupil's overall good and a sense of how the good of learning the specific subject matter fits into the pupil's overall good. Without this, one can infer that the teacher values [their] subject matter but does not seem to have a clear sense of the value of [their] pupils as persons in their own right'. Both the system and the individual roles should be designed in ways that empower clinicians to be responsive to patients, to people, as such. The proper end for any clinician, and for any health care professional qua pharmacist, ought to be to care about the person in front of them, and to service this end by drawing on their clinical skill sets.
- **Core clinician skill:** regardless of professional background, there are some core clinical skills which all clinicians must acquire and practice. The consultative, clinical assessment, prescribing skill and clinical knowledge for the patient cohort and clinical presentations being managed. These core skills can be considered horizontal. The vertical nature of the skill development will be explained below and will differ between professional groups.
- **Functional operational synergy:** the COM-B model cites that for an actor to implement a behaviour (B), which in this case is a pharmacist clinician with evolved skillset, there needs to be an appreciation of the *capabilities* (C) of the individual; the *opportunity* (O) to practice; and the individual needs to be *motivated* (M) to do so.⁷⁰ If we consider the capability or skill required to undertake an assessment of a sore throat, for example – an assessment which could be undertaken by a variety of trained healthcare professionals (horizontal skill) e.g. general practitioner, pharmacist clinician, advanced nurse practitioner. The degree to which anyone of them undertakes the skill: technical ability; diagnostic ability; concomitant procedural ability; will vary depending on the specialism and, to an extent, the professional cadre of the clinician (vertical skill). Although there is variation in the healthcare professional undertaking the assessment, this can be stratified based on clinical need and staffing available. Having multiple healthcare professionals trained in the horizontal skills here allows for a dynamic and synergistic approach to the functional operation of the clinical service. In terms of the COM-B model, there are multiple actors who have the capability, the dynamic system they work in affords the opportunity, and their professionalism gives the motivation. Overall, this gives continuity of service. The blend of horizontal and vertical skills within the team ensures the continuity of service, while the collaborative nature of the team response to the healthcare need will require upskilling of some members, providing stability, continuity, and support for all.

5.2. Divergent characteristics

- **Variation in training:** let us take the example of a trained doctor in any given specialism – say general practice (family medicine – a General Practitioner or GP). The clinical standard of a GP, as an output of a GP training programme, is understood. Within medical education, all

junior doctors complete Foundation Training before undertaking specialism-specific training which is designed to expose the trainee to typical presentations within that given area, such that on completion of the training programme, they will be able to autonomously manage these presentations to a senior doctor level. While variation is still to be expected among a cohort of doctors post-training in any given specialism, there is a reasonable expectation that all those who attain certificate of completion of training will have the prerequisite knowledge, skills and behaviours meeting the minimum standard required. Typically, within a general practice setting this would involve a three-to-four-year programme, initially with trainees gaining experience working as middle grade doctors in other specialties, before returning to general practice under supervision to undertake a CBE portfolio, applied knowledge test, and a practical test of clinical skills assessment.⁷¹ The competencies for GP training are specific to that specialty and particular to the knowledge required within general practice. This is a key difference between training in a medical specialty and pharmacist training. For advanced and consultant pharmacist training, there is one single curriculum which sets the standard for that level of practice within the UK but that critically, it is not sector or specialty specific. While this aims to effectively control the standard of practice between sectors, it may lead to intra-specialism variation due to the lack of a stipulated specialism-specific syllabus where we postulate that two pharmacists completing the curriculum to the same level of award, may not necessarily be able to cross-cover each other's jobs, even within the same specialism. This is because the curricula assesses the level to which a pharmacist operates in their own scope and sphere of practice, but does not define the practice itself. In contrast, while some GPs may have special interests, or additional qualifications/diplomas in GP subspecialties, there is an understanding of the basic clinical core work expected of a GP.

- **Variation in clinical skill:** breadth of horizontal skills acquisition and height of vertical skills attainment, is a key differentiator between professional groups. The nature of which is difficult to determine by sweeping generalisation. The variation in training, as outlined above, postulates a more generalisable post-training product from a GP training scheme,⁷¹ for example, than it does a generic RPS Post-Registration Foundation⁵⁵ or Advanced Pharmacist⁵⁶ scheme – regardless if hosted in the same specialisms when training, for the reasons given above. This makes comparison unrealistic, heterogeneous, and likely to be determinable only on an individual basis. Other opportunistic considerations of skills acquisition such as environmental and social factors need to be considered along with capability. Perhaps it is better to consider what would be an appropriate level of knowledge, skills and behaviours for any given presentation, such that a clinician would be able to deal with that presentation in accordance with the definition of a clinician given in section 2. At the interface between the professional groups, the lines are blurring. In part due to intraprofessional expansion of the composite skill sets of the professions. The professions overall though, are not interchangeable – they are not analogous. Pharmacist clinicians, for example, will not replace doctors, nor is there an intention (professional or political desire) to do so. There is however a growing confluence of shared clinical skill. Not only is this desirable, but it should also be considered essential in a modern collaborative healthcare system – especially in general practice. It allows for cross-cover and elasticity in any given system in accordance with the section on *functional operational synergy* above. It facilitates collaborative working within teams, responsive to patient needs, ensuring an appropriate skill mix such that patients are seen by appropriately trained, skilled clinicians, of whatever denomination. Beside this there continues to be divergent characteristics between the groups. In the most simplistic terms, there are legal rights reserved only for medical practitioners – for example, medical detention of patients who need urgent treatment and who are a risk to themselves or

others under the Mental Health Act 1983,⁷² or the issuing a death certificate under the 2011 Act.⁷³ These skills are best thought of as horizontal skills. It is easy to see the divergence of the skill sets here as they are beyond the legal scope of practice.

- **Divergent skill mix characteristics:** the concept of skill mix also extends to where skills of clinicians differentiate too, and so consideration must also be given to when a nominated healthcare professional group would be the optimal healthcare professional to assess a patient, in each setting, for a particular condition. This is again part of existing SG strategy to ensure that the right care is delivered by the right person, in an appropriate setting and in an appropriate time-scale.⁷⁴ Factoring into this is a desire that all clinicians wholly utilise their clinical skill sets as part of an enlarged multidisciplinary team.⁷⁵ Again, within a general practice setting, there is an expectation of medicines management functions being devolved to pharmacy teams including pharmacy technicians and pharmacy support workers; advanced practitioners taking on triage, acute assessment and house visits; while mental health link workers and physiotherapists see patients with mental health and musculoskeletal complaints respectively.⁷⁶ Indeed, about half of all consultations in general practice are conducted by non-GPs – and is essential to allow capacity for GPs to deliver their expert medical generalist work.⁷⁷ Community pharmacy also falls under the wider primary care sector, although distinct from general practice and with a separate NHS contractor status. Expansion of the community pharmacist role has added value to the role, as well as to the wider collaborative care team and patients in primary care. The ‘Pharmacy First Plus’ service in NHS Scotland, where patients may consult with a community pharmacist independent prescriber for any given condition within their sphere of competence to treat, allows patients to be assessed, diagnosed and receive a treatment on prescription, if deemed necessary.⁷⁸ This system aims to reduce approaches to general practices, improves access to care and treatment for patients, as well as expanding the role and (expected) job satisfaction for community pharmacists. There is however a critical difference from the way which community pharmacists and general practice or hospital-based pharmacists work – that is in access to patient medical records. It is critical that pharmacist clinicians, regardless of sector, have access to accurate past medical history such that they are able to make informed decisions about patients care. This would include access to laboratory results. Any pharmacist clinician also needs to be able to write an accurate and contemporaneous note of the clinical encounter, and be able to effectively share this information, and/or refer, between clinicians in different care settings.⁷⁹

6. Conclusion

This paper sets out the distinguishing features of a *Pharmacist Clinician Model* offering a systematic approach to the safe development of pharmacist clinicians needed within modern healthcare structures. It builds on the interdependencies between professions as part of a collaborative clinical workforce. It articulates what pharmacist clinicians will do for patients, the public, and the wider health service in support of the delivery of healthcare capacity and population health.

There are several key factors which are essential to enable pharmacist clinician integration including: devolved clinical autonomy; collaborative clinical service structures; a defined scope of practice and core clinical skills; and environmental, social and legislative changes such that pharmacist clinicians are able to apply their knowledge, skills and behaviours in practice. There is an expectation this will deliver efficient and dynamic workforce transformation. One in which a pharmacist can utilise their full range of skills to care for patients, avoiding potential alienation through skills-based workforce redesign.

Revised educational programmes, with sequential horizontal and vertical skills integration, across the four pillars of practice, are needed to accredit this type of practice. CBE programmes should be precepted

and supervised, and there is a need for robust educational and clinical governance of pharmacist clinician skill. Finally, to assure patients, employing organisations, and clinician colleagues of the level of pharmacist clinician practice, there is a need for regulation of advanced and consultant pharmacist clinician practice.

Funding

None.

CRediT authorship contribution statement

Gordon F. Rushworth: Writing – review & editing, Writing – original draft, Visualization, Methodology, Data curation, Conceptualization. **Paul Forsyth:** Writing – review & editing, Visualization, Data curation, Conceptualization. **Andrew Radley:** Writing – review & editing, Data curation. **Catherine Duggan:** Writing – review & editing, Data curation. **Rod Sampson:** Writing – review & editing, Data curation. **Scott Cunningham:** Writing – review & editing, Supervision, Data curation. **Barry Maguire:** Writing – review & editing, Writing – original draft, Visualization, Supervision, Data curation, Conceptualization.

Declaration of competing interest

None.

Acknowledgements

We offer our heartfelt thanks to the fine hills of Glen Lyon, Scotland, for the space and inspiration to devise and model the concepts within this paper.

References

1. General Pharmaceutical Council. Standards for the initial education and training of pharmacists. Available at: https://www.pharmacyregulation.org/sites/default/files/document/standards-for-the-initial-education-and-training-of-pharmacists-january-2021_0.pdf. Accessed 2021.
2. Kellar J, Singh L, Bradley-Ridout G, et al. How pharmacists perceive their professional identity: a scoping review and discursive analysis. *Int J Pharm Pract*. 2021;29:299–307.
3. Forsyth P, Radley A, Rushworth GF, et al. The collaborative care model: realizing healthcare values and increasing responsiveness in the pharmacy workforce. *Res Soc Adm Pharm*. 2023;19:110–122.
4. Scottish Government. Realistic medicine: Chief Medical Officer’s annual report 2014–15. Available at: <https://www.gov.scot/publications/chief-medical-officers-annual-report-2014-15/>. Accessed 2024.
5. Scottish Government. Realistic medicine - doing the right thing: Chief Medical Officer annual report 2022 to 2023. Available at: <https://www.gov.scot/publications/realistic-medicine-doing-right-thing-cmo-annual-report-2022-2023/>.
6. Marcum J. The epistemically virtuous clinician. *Theor Med Bioeth*. 2009;30:249–265.
7. Mackenzie C, Stoljar N. *Relational Autonomy: Feminist Perspectives on Autonomy, Agency, and the Social Self*. New York: Oxford University Press; 2000.
8. Raz J. *The Morality of Freedom*. New York: Oxford University Press; 1986.
9. Reath A. *Agency and Autonomy in Kant’s Moral Theory*. Oxford: Oxford University Press; 2006.
10. Kohn ML, Schooler C. The reciprocal effects of the substantive complexity of work and intellectual flexibility: a longitudinal assessment. *Am J Sociol*. 1978;84:24–52.
11. Clark S. Good work. *J Appl Philos*. 2017;34:61–73.
12. Murphy JB. *The Moral Economy of Labor: Aristotelian Themes in Economic Theory*. New Haven: Yale University Press; 1993.
13. Rodrigues M, Fernández-Macias E, Sostero M. A unified conceptual framework of tasks, skills and competences. Available at: https://joint-research-centre.ec.europa.eu/document/download/806566f3-82b9-45fc-8092-78d66c36d7e5_en#:~:text=We%20start%20from%20the%20concept,the%20ability%20to%20perform%20tasks. Accessed 2024.
14. Scottish Government. NHS Scotland recovery plan. Available at: <https://www.gov.scot/publications/nhs-recovery-plan/>. Accessed 2022.
15. Scottish Government. Health and social care: National workforce strategy. Available at: <https://www.gov.scot/publications/national-workforce-strategy-health-social-care/>. Accessed 2022.
16. Public Health Scotland. *Scottish Burden of Disease Study: Forecasting the Future Burden of Disease: Incorporating the Impact of Demographic Transition over the Next 20 Years*. 2022.
17. National Records of Scotland. *Healthy Life Expectancy 2019–2021*. 2022.

18. National Records of Scotland. Life expectancy continues to fall in Scotland. Available at: <https://www.nrscotland.gov.uk/news/2022/life-expectancy-continues-to-fall-in-scotland>. Accessed 2022.
19. Schumacher AE, Kyu HH, Aali A, et al. Global age-sex-specific mortality, life expectancy, and population estimates in 204 countries and territories and 811 subnational locations, 1950–2021, and the impact of the COVID-19 pandemic: a comprehensive demographic analysis for the global burden of disease study 2021. *Lancet*. 2024. [https://doi.org/10.1016/S0140-6736\(24\)00476-8](https://doi.org/10.1016/S0140-6736(24)00476-8).
20. International Pharmaceutical Federation. *Advanced Practice and Specialisation in Pharmacy: Global Report 2015*. The Hague: FIP; 2015.
21. Bates I, Bader LR, Galbraith K. A global survey on trends in advanced practice and specialisation in the pharmacy workforce. *Int J Pharm Pract*. 2020;28:173–181.
22. Bader LR, Bates I, Galbraith K. Trends in advanced practice and specialisation in the global pharmacy workforce: a synthesis of country case studies. *Int J Pharm Pract*. 2020;28:182–190.
23. Rushworth GF. *Innovations in Education and Training to Enable Development of Pharmacists as Clinicians*. Robert Gordon University; 2023. PhD Thesis.
24. Rushworth GF, Jebara T, Tonna AP, et al. General practice pharmacists' implementation of advanced clinical assessment skills: a qualitative study of behavioural determinants. *Int J Clin Pharm*. 2022;44:1417–1424.
25. Cope LC, Abuzour AS, Tully MP. Nonmedical prescribing: where are we now? *Ther Adv Drug Saf*. 2016;7:165–172.
26. Blue CL, Gould ON, Clarke C, et al. Burnout among hospital pharmacists in Canada: a cross-sectional analysis. *Can J Hosp Pharm*. 2022;75:326–334.
27. Mausz J, Donnelly EA, Moll S, Harms S, McConnell M. Role identity, dissonance, and distress among paramedics. *Int J Environ Res Publ Health*. 2022;19:2115.
28. Araújo-Neto FdC, Dosea AS, Fonseca FLD, et al. Perceptions of formal pharmacy leadership on the social role of the profession and its historical evolution: a qualitative study. *Explor Res Clin Soc Pharm*. 2024;13, 100405.
29. Maguire B. Efficient markets and alienation. *Philosophers' Impr*. 2002:1–19.
30. Campbell D. Worst-off find it harder than well-off to access NHS care. *survey finds*; 2024. Available at: <https://www.theguardian.com/society/2024/mar/04/worst-off-find-it-harder-than-well-off-to-access-nhs-care-survey-finds>, 2024.
31. Marmot M. The health gap: the challenge of an unequal world. *Lancet*. 2015;386:2442–2444.
32. Tudor Hart J. The Inverse care law. *Lancet*. 1971;297:405–412.
33. International Pharmaceutical Federation. The FIP Brisbane calls to action: The consensus from the FIP workforce symposium "Accelerating towards 2030: Workforce transformation for better health". Available at: <https://www.fip.org/file/5644>. Accessed 2024.
34. Bush PW. The journey to advanced clinical pharmacy practice: global collaboration will accelerate the pace. *Adv Med Pharmacol Dent Res J*. 2021;1:3–4.
35. International Pharmaceutical Federation. *The FIP Global Roadmap 2030: Sustainable Advancement for Pharmacy Worldwide. High-Level Report by the FIP Bureau*. The Hague: FIP; 2022.
36. International Pharmaceutical Federation. FIP development goals. Available at: <https://developmentgoals.fip.org/>. Accessed 2024.
37. Aqqad F, Meilanti S, John C, Koudmani D, Akel M, Bates I. Needs assessment of global pharmaceutical development goals: an explanatory mixed-methods study of 21 countries. *Int J Pharm Pract*. 2024;32:29–38.
38. Cornett M, Palermo C, Ash S. Professional identity research in the health professions: a scoping review. *Adv Health Sci Educ Theory Pract*. 2023;28:589–642.
39. General Pharmaceutical Council. *Standards for Pharmacy Professionals*. London: GPhC; 2017.
40. McDermott I, Astbury J, Jacobs S, et al. To be or not to be: the identity work of pharmacists as clinicians. *Sociol Health Illness*. 2023;45:623–641.
41. Liaw S, Peterson G. Doctor and pharmacist - back to the apothecary. *Aust Health Rev*. 2009;33:268–278.
42. Anderson S. A history of pharmacy in Great Britain. Available at: <http://www.bshp.org/aboutus/PharmaceuticalHistory.asp>. Accessed 2023.
43. Royal Pharmaceutical Society. Collaborative supported e-portfolio programme to advanced pharmacist practice in England. Available at: <https://www.rpharms.com/development/credentialing/core-advanced-pharmacist-curriculum/collaboration-between-rps-nhse-wt-e-centre-for-advancing-practice-and-cppe>. Accessed 2024.
44. Dixon DL, Johnston K, Patterson J, Marra CA, Tsuyuki RT. Cost-effectiveness of pharmacist prescribing for managing hypertension in the United States. *JAMA Netw Open*. 2023;6, e2341408.
45. McIntosh T, Munro K, McLay J, Stewart D. A cross sectional survey of the views of newly registered pharmacists in Great Britain on their potential prescribing role: a cautious approach. *Br J Clin Pharmacol*. 2011;73:656–660.
46. Tallentire VR, Smith SE, Kerins J, et al. Investigating how interprofessional simulation influences tolerance of ambiguity. *Curr Pharm Teach Learn*. 2022;14:1506–1511.
47. NPA. Knowledge article: Independent prescribing principles: Ensuring appropriate assurance and governance of prescribing activities + professional indemnity requirements. Available at: <https://www.npa.co.uk/information-and-guidance/knowledge-article-independent-prescribing-principles-ensuring-appropriate-assurance-and-governance-of-prescribing-activities-professional-indemnity-requirements/>. Accessed 2024.
48. Forsyth P, Rushworth GF. Advanced pharmacist practice: where is the United Kingdom in pursuit of this 'Brave new world'. *Int J Clin Pharm*. 2021;43:1426–1430.
49. Jebara T, Thomas I, Cunningham S, Rushworth GF. Pharmacy and medical student IPE placement week. *Clin Teach*. 2022;19:143–149.
50. Innes C, Rushworth G, Addison B, et al. An innovative general practice-based pharmacy longitudinal clerkship: using theory to characterise its development, implementation and initial evaluation. *Educ Prim Care*. 2021;33(3):173–179.
51. Innes Cunningham, Addison, et al. General practice-based undergraduate pharmacy longitudinal clerkship: a theoretically underpinned qualitative evaluation. *Int J Clin Pharm*. 2022;44:1123–1131.
52. Rushworth GF, Innes C, Macdonald A, et al. Development of innovative simulation teaching for advanced general practice clinical pharmacists. *Int J Clin Pharm*. 2021;43:817–824.
53. Rushworth GF, Jebara T, Tonna AP, et al. General practice pharmacists' implementation of advanced clinical assessment skills: a qualitative study of behavioural determinants. *Int J Clin Pharm*. 2022;44:1417–1424.
54. Austin Z, Andriole DA, Rhoney DH. Is it time for competency-based education to move forward in pharmacy education? *Am J Pharmaceut Educ*. 2023;87, 100550.
55. Royal Pharmaceutical Society. Post-registration foundation pharmacist curriculum. Available at: <https://www.rpharms.com/Portals/0/Foundation%20Curriculum/RPS%20Post-registration%20Foundation%20Curriculum-FINAL.pdf?ver=gPy42LspTywTVu6VgEg4dA%3d%3d>. Accessed 2022.
56. Royal Pharmaceutical Society. Core advanced pharmacist curriculum. Available at: <https://www.rpharms.com/development/credentialing/core-advanced-pharmacist-curriculum>. Accessed 2021.
57. Royal Pharmaceutical Society. Consultant pharmacist curriculum. Available at: https://www.rpharms.com/Portals/0/Consultant/Open%20Access/RPS%20Consultant%20Pharmacist%20Curriculum%202020_FINAL.pdf?ver=huDM4dXTEjtXpcaPQD3j8w%3d%3d. Accessed 2023.
58. Meilanti S, Galbraith K, Bader L, Udoh A, Ernawati D, Bates I. The development and validation of a global advanced development framework for the pharmacy workforce: a four-stage multi-methods approach | international journal of clinical pharmacy. *Int J Clin Pharm*. 2023;45:940–951.
59. International Pharmaceutical Federation. *FIP Global Advanced Development Framework Handbook: Supporting Advancement of the Profession*. The Hague: FIP; 2020.
60. International Pharmaceutical Federation. *Competency-based Education in Pharmacy and Pharmaceutical Sciences: A FIP Handbook to Support Implementation of Competency-Based Education and Training*. The Hague: FIP; 2022.
61. Ten Cate O. Entrustability of professional activities and competency-based training. *Med Educ*. 2005;39:1176–1177.
62. Ten Cate O. A primer on entrustable professional activities. *Korean J Med Educ*. 2018;30:1.
63. Nursing and Midwifery Council. Advanced practice review. Available at: <https://www.nmc.org.uk/about-us/our-role/advanced-practice-review/>. Accessed 2024.
64. Nursing and Midwifery Council. Advanced practice: Our recommendations for additional regulation. Available at: <https://www.nmc.org.uk/news/news-and-updates/advanced-practice-our-recommendations-for-additional-regulation/>. Accessed 2024.
65. Scottish Parliament. Health and Care (Staffing) (Scotland) Act 2019. Available at: <https://www.legislation.gov.uk/asp/2019/6/enacted>. Accessed 2022.
66. General Pharmaceutical Council. Consultation on draft standards for chief pharmacists. Available at: <https://www.pharmacyregulation.org/about-us/getting-involved/consultations/consultation-draft-standards-chief-pharmacists>. Accessed 2024.
67. Department of Health. New powers for dental and pharmacy staff to free up appointments. Available at: <https://www.gov.uk/government/news/new-powers-for-dental-and-pharmacy-staff-to-free-up-appointments>. Accessed 2024.
68. Dixon-Woods M, Summers C, Morgan M, Patel K. The future of the NHS depends on its workforce. *BMJ*. 2024;384, e079474.
69. Blum L. Vocation, friendship, and community. In: Flanagan O, Rotty A, eds. *Identity, Character, and Morality: Essays in Moral Psychology Revised*. Massachusetts: MIT Press; 1993.
70. Michie S, van Stralen MM, West R. The behaviour change wheel: a new method for characterising and designing behaviour change interventions. *Implement Sci*. 2011;6:1–11.
71. Riley B, Haynes J, Field S. *The Condensed Curriculum Guide*. London: RCGP; 2007.
72. UK Government. Mental Health Act 1983. Available at: <https://www.legislation.gov.uk/ukpga/1983/20/contents>. Accessed 2024.
73. Scottish Parliament. Certification of Death (Scotland) Act 2011. Available at: <https://www.legislation.gov.uk/asp/2011/11/contents>. Accessed 2024.
74. Scottish Government. Right care right place. Available at: <https://www.gov.scot/publications/right-care-right-place-2/>. Accessed 2022.
75. Royal College of General Practitioners. Fit for the future: A vision for general practice. Available at: <https://www.rcgp.org.uk/getmedia/f0f06ea4-bce1-4d4e-befc-d8337db06d0e/RCGP-fit-for-the-future-report-may-2019.pdf>. Accessed 2024.
76. Scottish Government. The 2018 General Medical Services contract for Scotland. Available at: <https://www.gov.scot/publications/gms-contract-scotland/>. Accessed 2021.
77. Marshall M, Ikpo M. The workforce crisis in general practice. *Br J Gen Pract*. 2022;72:204–205.
78. Scottish Government. Community pharmacy - national career pathway and introduction of a common clinical conditions independent prescribing service (NHS pharmacy first plus). Available at: [https://www.sehd.scot.nhs.uk/pca/PCA2020\(P\)16.pdf](https://www.sehd.scot.nhs.uk/pca/PCA2020(P)16.pdf). Accessed 2024.
79. Shaikh A. Writing patient notes: a guide for pharmacists. *Pharm J*. 2023;310.