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Pharmacy technicians: an assessment of the current UK landscape, and proposals to develop community pharmacist and pharmacy technician roles and skill mix to meet the needs of the public

Chapter 3

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3 Pharmacy technicians – initial education and training

3.1 Initial education and training requirements

In Great Britain, since 2011, GPhC registration has been required for anyone wishing to call himself or herself a pharmacy technician. To register, individuals must pass competency and underpinning knowledge-based qualifications approved by the GPhC. These can be studied separately, for example by taking a Qualifications and Credit Framework (QCF) level 3 National Vocational Qualification (NVQ) Diploma in Pharmacy Service Skills (competency-based), plus a level 3 Diploma in Pharmaceutical Science (knowledge based). Alternatively, single qualifications such as the NPA or Buttercups level 3 qualifications, which combine both the knowledge and competency elements, are available.

The training involves a combination of study either at an approved centre (a Further Education College (FEC), NHS hospital, health board or community pharmacy employer approved by the awarding body to deliver the course(s)) or by distance learning, plus practical work experience. The GPhC sets the amount of relevant work experience required for registration - a minimum of two years and 1,260 hours as a trainee. At present, this must be completed under the supervision, direction or guidance of a pharmacist to whom they have been directly accountable, 315 hours of which must have been completed in each of the two years, though supervision of the training by a pharmacy technician will be permitted once new courses based on the revised GPhC standards for initial education and training are introduced from September 2018. [1] [2] [3] [4] [5]

National Occupational Standards (NOS) for pharmacy, which are owned by Skills for Health (SfH), underpin these level 3 qualifications. [6] SfH is a sector skills council – an organisation which develops employer-led skills standards for healthcare. The pharmacy NOS standards were first developed by the Science, Engineering and Manufacturing Technologies Alliance (Semta) and

handed over to SfH in 2005. They were reviewed in 2007-2010 but were not reviewed again until 2016, leaving a significant period of time where pharmacy technicians' qualifications had not been modernised since some time before mandatory registration requirements came into force. [7] Whilst the GPhC sets the initial *education and training* criteria for entry onto the register, responsibility for *writing and controlling* the standards of qualification for pharmacy technicians – to meet the needs of employers - rests with SfH. [8]

City & Guilds, Pearson and the Scottish Qualifications Authority (SQA) are awarding organisations that approve providers to deliver both the competency and knowledge-based qualifications. The GPhC recognises the qualifications provided by City & Guilds and Pearson, but does not directly accredit them. The GPhC does accredit the knowledge qualification provided by the SQA and the competency and knowledge courses provided by the NPA and Buttercups. Awarding organisations assume responsibility for the quality assurance of individual training providers.

City & Guilds and Pearson grade trainees based on criteria which equate to a pass, merit or distinction and the SQA grading criteria result in a pass or a fail, with the pass mark at around 60%. [9]

The pharmacy regulator in Northern Ireland, the PSNI, does not regulate pharmacy technicians and does not specify what qualifications or training a person must have to work as a pharmacy technician in the country. Though some colleges offer the same NVQ level 3 training which is recognised in Great Britain, different employers may accept different standards of qualification or training. [10] [11]

3.2 Pharmacy support staff role definitions

There are a multitude of pharmacy support role job titles – some with similar, and others with quite different, job descriptions. This can cause confusion and should be simplified. This confusion is particularly prevalent in the community pharmacy setting. Table 5 gives examples of roles in community pharmacy and their associated descriptions.

Table 1 – Royal Pharmaceutical Society of Great Britain (RPSGB) Pharmacy Support Staff Definitions, 2004

Job title	**Job description** [12]
Medicines Counter Assistant (MCA) / Healthcare Assistant / Healthcare Advisor	A person who has satisfactorily completed or is undertaking an accredited programme of training for work in support of the sale of non-prescription medicines, the receipt of prescriptions, the handing out of completed dispensed items and the provision of advice on health matters over the pharmacy counter.
Dispensing Assistant / Dispenser / Pharmacy Assistant / Assistant Technical Officer	A person involved in a range of pharmacy support activities covered by RPSGB's 2005 minimum competence requirements.
Pharmacy Technician	A person who holds a Pharmacy Services Scottish/National Vocational Qualification (S/NVQ) level 3 qualification or a qualification that has previously been

	recognised by employers as a valid qualification for pharmacy technicians.

It is notable that the above 'definition' of a pharmacy technician does not actually define the role, other than in a circular way.

An Accuracy Checking Technician (ACT) is typically a person who has been selected by an employer to perform the final accuracy check on dispensed prescription items. The assessment for the qualification should involve correctly accuracy checking a large number of dispensed prescription items, but there is no statutory minimum and a number of failed attempts may be permitted. In practice, an ACT may or may not be a pharmacy technician registered with the GPhC.

3.3 The lack of distinction of the pharmacy technician role in Great Britain

The lack of distinction of the pharmacy technician role from that of other community pharmacy roles was exemplified by a query submitted to the RPSGB in April 2005, obtained through a Freedom of Information request, which read: "*I qualified as Pharmacy Technician in Septemebr [sic] 04, having successfully completed NVQ3 Pharmacy Services. Up until qualification, I was described by my employers as [a Medicines Counter Assistant]. I have just received my new contract of employment from 1st April 05 which now descibes [sic] me as a Dispensary Assistant.*"

In 2008, at the time pharmacy technicians were starting to join the RPSGB's public register under voluntary arrangements, the UK government defined the role thus: *"Pharmacy Technicians are part of a group of workers known as the Pharmacy Support Staff, who include dispensing/pharmacy assistants and medicine counter assistants. They tend to work in hospitals, community retail outlets and for pharmaceutical companies. Pharmacy technicians assist in the*

preparation and assembly of medicines, and in dealing with patients and customers. Their work is conducted under the supervision of a registered Pharmacist." [13]

In March 2011, the GPhC defined the role of a pharmacy technician in the following way: *"Under pharmacist supervision, pharmacy technicians:*

- *Supply medicines to patients, whether on prescription or over the counter*
- *Assemble medicines for prescriptions*
- *Provide information to patients and other healthcare professionals*

Pharmacy technicians also:

- *Manage areas of medicines supply such as dispensaries*
- *Supervise other pharmacy staff*
- *Produce medicines in hospitals and the pharmaceutical industry*
- *Are involved in areas such as medicines management; manufacturing; aseptic dispensing; quality control; training and development; procurement; information technology; clinical trials; medicines information."*

The description was vague and to what extent pharmacy technicians were involved in the above activities was not specified. However, it was notably similar to the description of a dispensing assistant - also provided by the GPhC in 2011 and remaining in place in 2017 - whose training covers the following areas:

- *"Sale of over the counter medicines and the provision of information to customers on symptoms and products*
- *Prescription receipt and collection*
- *The assembly of prescribed items (including the generation of labels)*
- *Ordering, receiving and storing pharmaceutical stock*

- *The supply of pharmaceutical stock*
- *Preparation for the manufacture of pharmaceutical products (including aseptic products)*
- *Manufacture and assembly of medicinal products (including aseptic products).”* [14]

Checked in September 2017, the National Careers Service (NCS) describes the day-to-day tasks of a pharmacy technician:

- *“choosing the correct items for a prescription*
- *weighing ingredients, measuring liquids and counting tablets*
- *putting together ointments and medicines*
- *making sure prescriptions are legal and accurate*
- *creating labels to tell people how to take medicine*
- *ordering new stock using computerised systems*
- *giving advice to customers about medicines*
- *handling confidential information.”* [15]

Particularly for the community sector - where the majority of pharmacy technicians are employed - the above role definitions from the NCS remain accurate in late 2017. The 2011 GPhC definitions for pharmacy technicians and dispensing assistants include activities which take place in hospital pharmacy and in the pharmaceutical industry, but which were (and remain) rare in community pharmacy.

In community pharmacy, there is little, if any, difference between the role of a dispensing assistant (‘dispenser’) and that of a ‘registered pharmacy technician’. The GPhC identified this issue, as did Pharmacy Voice, an organisation which was set up to represent the majority of (if not

all) commercial business owners in community pharmacy and which disbanded in 2017. [16] [17] [18] The same issue has also been identified by distance learning providers of pharmacy technician training courses, researchers and pharmacy technicians themselves. It caused academics to call, in 2015, for the clarification of the professional registration requirement. [19] The call for a clearer role definition for pharmacy technicians working in community pharmacy has been made repeatedly, including following recent GPhC-commissioned research into - and a consultation regarding - the initial education and training of pharmacy technicians. [9] [19] [20] [16] [21] The role often does not change upon registration with the GPhC and in a recent research study, one pharmacy technician in training reported working primarily as a medicines counter assistant. [19]

The lack of distinction between the role of the pharmacy technician and that of a dispensing assistant is further exemplified by the fact that Standard Operating Procedures in community pharmacy often do not distinguish between pharmacy technicians and other dispensary or pharmacy team members, in terms of which role may perform the procedural steps.

3.4 The lack of distinction of the pharmacy technician role in Northern Ireland

The situation in Northern Ireland is similar to that in Great Britain, in that there is no discernible difference between the role of the pharmacy technician and that of a dispensing assistant in community pharmacy. The role of the community pharmacy technician is described by the NI government thus:

"Pharmacy technicians are part of the pharmacy team and work under the supervision of a pharmacist. They are involved in the supply of medicines and products to patients.

Community pharmacy technicians work under the supervision of registered pharmacists in retail pharmacies. They label and dispense prescribed medicines. They also provide information and advice to patients about how to use their medication.

With the guidance of the pharmacist, they are also trained to advise members of the public about over the counter medicines and management of minor ailments.

Activities can include:

- *making simple dilutions*
- *making up ointments and mixtures*
- *assisting with services to nursing homes and the supply of oxygen*
- *helping the pharmacist in a range of other duties such as stock checking and ordering*
- *keeping individual records of patients [sic] prescriptions*

Skills and training needed to be a pharmacy technician
A pharmacy technician should:

- *be able to work well as part of a team*
- *be organised*
- *have good communication skills*
- *an ability to explain things simply"*.

The NI government's website indicates that there are no minimum entry requirements to be a pharmacy technician. In relation to career progression, it states: *"In the hospital service, there are several grades for qualified pharmacy technicians. Senior technicians can specialise in a range of pharmaceutical services while a chief technician is often responsible for managing a section of the*

pharmacy department. The opportunities for specialisation and increased responsibility extend with experience. There are a number of management, administration and specialist roles undertaken by pharmacy technicians." It is silent on career progression in community pharmacy, where, as in Great Britain, no occupational career framework exists.

The role description of the community pharmacy technician's role in Northern Ireland is, as in Great Britain, notably similar to that for a dispensing assistant, with the role of the dispensing assistant arguably sounding more advanced in some respects:
"Pharmacy / dispensing assistants work under the supervision of pharmacists. They do general duties in community pharmacies.

These duties include:

- *sale of over the counter medicines*
- *giving information to customers on symptoms and products*
- *prescription receipt and collection*
- *the assembly of prescribed items (including the generation of labels)*
- *ordering, receiving and storing pharmaceutical stock*
- *preparation for the manufacture of pharmaceutical products (including aseptic products)*
- *manufacture and assembly of medicinal products (including aseptic products)*

Skills and training needed to be a dispensing assistant
You should have:

- *good teamwork skills*
- *an ability to communicate well*
- *good organisations skills".*

The description of the hospital pharmacy technician role in NI differed:

"Hospital pharmacy technician

Hospital pharmacy technicians are involved in the procurement, manufacture, dispensing and safe administration of medicines. Technicians can also routinely perform the final accuracy check on dispensed medicines, immediately before it is released to the patient.

Pharmacy technicians are trained to make medicinal products. These can include creams, ointments and mixtures and those medicines which need to be tailor made for specific patients - for example, injections used to treat cancer." [22]

3.5 Recruitment

An analysis was carried out in early 2017 of the job adverts for pharmacy technicians listed on the NHS jobs website - www.jobs.nhs.uk - and those listed by each of the Company Chemists' Association community pharmacy multiples (ASDA, Boots, Lloyds Pharmacy, Morrisons, Rowlands Pharmacy, Superdrug, Tesco and Well) using the search terms 'pharmacy technician', 'checking technician' and 'technician'.

At the time of the search in March 2017, 53 NHS jobs were listed which were targeted at pharmacy technicians, working in a variety of roles. Only one asked specifically for an 'Accredited Checking Technician' in the job title; none asked for an 'Accuracy Checking Technician' or similar. The adverts for roles in the hospital sector were invariably more detailed than those in community pharmacy in terms of the requirements of the applicant - specifying, for example, previous NHS hospital experience or membership of the APTUK.

Of the jobs advertised by the Company Chemists' Association (CCA) multiples (ASDA, Boots, Lloyds Pharmacy, Morrisons, Rowlands Pharmacy, Superdrug, Tesco and Well), 15 were specifically for pharmacy technicians; 13 were for either a pharmacy technician or a dispensing assistant; 114 were for an accuracy checking technician and one was for a pharmacy technician registered with the Royal Pharmaceutical Society (RPS) (which would have had to be a pharmacist since RPS membership is restricted). 3 trainee accuracy checking technician roles were also advertised, but no trainee pharmacy technician roles could be found. This suggests that the accuracy checking of prescriptions is of high importance to community pharmacy employers in the context of any other skills a pharmacy technician might possess. In hospitals, though some of the adverts for pharmacy technicians required the ability to accuracy check prescriptions, 98% were for a 'pharmacy technician' rather than an ACT (or alternative title).

3.6 The grandparent clause

In 2002, the professional regulator for pharmacy at the time, the Royal Pharmaceutical Society of Great Britain (RPSGB), agreed to regulate pharmacy technicians. Pharmacy technicians were able to voluntarily register with the RPSGB between January 2005 and December 2007, and it was intended that registration would be mandatory thereafter for anyone wishing to use the title 'pharmacy technician'. To register with the RPSGB as a pharmacy technician during the voluntary period, support staff had to possess a Pharmacy Services S/NVQ Level 3 or equivalent qualification under the transitional 'grandparent clause' arrangements. [12]

The Section 60 Order of the Health Act 1999 (i.e. the Pharmacists and Pharmacy Technicians Order 2007) came in to force in February 2007. It required pharmacy technician registration to be made mandatory, with provision for voluntary registration to continue for a further two years, during which time unregistered pharmacy technicians could continue to use the title. [23] [24]

The Pharmacy Order 2010 came in to force in February 2010. It gave legislative effect to the replacement of the RPSGB with the GPhC later that year as the regulator of pharmacists and pharmacy technicians. It was meant to result in mandatory registration of pharmacy technicians, but due to delays in its implementation, the voluntary pharmacy technician register continued until 30 June 2011 – 18 months later. [25]

The voluntary register and its transitional grandparenting arrangements, which were intended to run until December 2007, therefore ran between January 2005 and July 2011 - three and a half years longer than originally intended. The transitional arrangements ended on 30 June 2011, and since that time, no pharmacy technicians have been able to register via the grandparent clause. However, pharmacy technicians that registered under the grandparent clause prior to 1 July 2011 and then left the register were permitted to re-join the statutory register until 26 September 2012. [1]

Only 523 pharmacy technicians registered in the first three months when the voluntary register opened in 2005, and 3,000 had registered within 17 months. [26] [27] By January 2007, 4,642 pharmacy technicians had voluntarily registered. [28] There was an apparent rush to register shortly before the 30 June 2011 deadline. 5,600 applied to register in the final two months before the deadline, 4,000 of which waited until the final month. More than 30% of applications had missing information or documentation. [29] [30]

On 31 July 2012, there were 21,361 pharmacy technicians on Part 2 of the GPhC register (the register of pharmacy technicians). Of those on Part 2 in 2012, almost two-thirds (65.0%) had joined prior to mandatory registration on 1 July 2011. The remainder, the majority of whose applications were received prior to 1 July 2011, were processed onto the register during the year July 2011 to July 2012. [31]

A snapshot of the register of pharmacy technicians, taken in October 2015, indicated that 17,916 of the 23,064 pharmacy technicians on the GPhC register (78%) were registered via the grandparent clause (according to the GPhC's response to a Freedom of Information (FOI) request, 14 October 2015). In April 2017, a further FOI request revealed that 16,956 of the 23,318 (as at 31 March 2017) pharmacy technicians on the GPhC register (73%) were registered via the grandparent clause. [32]

3.6.1 Routes to grandparented registration

There were two routes to registration via the grandparent clause:

Route A: A straightforward application that required no screening by the RPSGB/GPhC. Those registering via this route had an RPSGB/GPhC-recognised qualification, relevant work experience and sufficient time in practice (not less than 14 hours per week in the previous four out of the past eight years, or not less than 28 hours per week in two out of the past four years).

Route B: Those applying to register via this route had to have an RPSGB-recognised qualification, but could be lacking work experience or time in practice; their applications required screening. They had to provide additional information about their work as pharmacy technicians, which was assessed by RPSGB/GPhC evaluators.

Acceptable qualifications for registration under the grandparent clause (route A) included*:

- BTEC National Certificate in Pharmaceutical Sciences
- BTEC National Certificate in Science (pharmaceutical)
- BTEC National Certificate in Applied Science (pharmaceutical)
- BTEC National Certificate in Pharmacy Services
- City & Guilds of London Institute, Dispensing Technicians Certificate
- Certificate of the Society of Apothecaries

- Boots 2-year dispenser training programme completed prior to 1993
- Boots 1-year dispensing assistants' course completed after 1993 but before 7 March 2005 plus an accredited top-up training module and assessment of competence
- Dispensing Certificate of the Royal Army Medical Corps or the Royal Air Force
- NPA 2-year Dispensing Technicians correspondence course completed prior to 1998
- National Certificate in Pharmaceutical Science, Stow College 1984-1992
- National Certificate in Pharmaceutical Science, Aberdeen 1990-1991
- National Certificate in Pharmaceutical Science, Dundee 1985-1987
- National Certificate in Pharmaceutical Science, Edinburgh Telford College 1984-1992
- National Certificate in Pharmaceutical Science, James Watt College 1991-1992
- NVQ level 3 Pharmacy Services (City & Guilds)
- NVQ level 3 Pharmacy Services (Edexcel)
- SANCAD Pharmacy Technicians Certificate (2 year)
- SCOTEC National Certificate in Pharmaceutical Science
- SCOTEC Pharmacy Technicians Certificate (2 year)
- SCOTVEC National Certificate in Pharmaceutical Science
- SQA National Certificate in Pharmaceutical Science
- SVQ level 3 Pharmacy Services (Scottish Qualifications Authority)
- University of Sunderland National Certificate in Pharmaceutical Services (BTEC) 1994-1998

* In addition to evidence of their qualification, prospective pharmacy technician registrants had to submit a brief career history, including a declaration of relevant work experience over the previous two to eight years. [33] [34] Of great concern is that although more than 17,000 pharmacy technicians registered with the GPhC via this route, the response to a Freedom of Information request, received in April 2017, revealed that the GPhC does not hold records of any assessment of any of the above qualifications as to whether they were suitable and provided

sufficient justification for allowing persons holding them to register as pharmacy technicians. The GPhC suggested contacting the RPS library to find out if they held such records, who in turn passed the query to the RPS museum, since it might have been the case that the RPSGB conducted such an assessment prior to the inception of the GPhC in September 2010. However, neither the RPS library nor the museum were able to find any record of such an assessment having been conducted.

3.6.2 Countersigning requirements

All applications for registration as a pharmacy technician under the grandparent clause had to be countersigned by a pharmacist. This was because the RPSGB stipulated that, under normal circumstances, pharmacy technicians applying to register must have had recent work experience under the supervision, direction or guidance of a pharmacist. The responsibilities of the countersigning pharmacist were defined by the RPSGB thus: *"By countersigning an application form you are confirming that you judge the technician to be competent to practise and to be a fit and proper person to be registered as a pharmacy technician. You are also confirming that, to the best of your knowledge, the information provided by the application is true and accurate."* In judging competence to practise, reliance upon a pharmacy technician possessing a listed qualification was encouraged in the RPSGB's guidance for countersigning pharmacists; this reliance may have been heightened by the absence of a definition of the role of the pharmacy technician in the guidance. [35]

The countersigning pharmacist should normally have been the person to whom the applicant was directly accountable - working under his or her supervision, direction or guidance. This would normally have been the pharmacy manager, line manager, superintendent pharmacist, chief pharmacist, or a pharmacist working for the same company on the same site. However,

pharmacists were also able to countersign applications for pharmacy technicians who were not working under their supervision, direction or guidance in the following circumstances:

- If the applicant had work experience in one of a number of areas, such as the Ministry of Defence (MOD), as a journalist or in a hospital where not accountable to the chief pharmacist.
- If the pharmacist had a professional relationship with the applicant's supervisor and/or line manager.

If the applicant was not working under the supervision, direction or guidance of the countersigning pharmacist, the application was subject to evaluation and submitted under Route B.

PDA pharmacist members reported that they were placed under pressure by their employers to sign off pharmacy technicians as competent.

The results of a survey carried out by JRA research suggest that many pharmacy technicians are unaware even of the existence of a grandparent clause, and the reason that most of them thought they needed to register with the RPSGB/GPhC was simply to enable them to continue in their existing roles, often because their employers had required them to do so. [36] Professional, role and career enhancement appear not to have been the primary motives for pharmacy technician registration.

The survey revealed that 41% of pharmacy technicians, commenting on their reasons for joining the register, said "*I felt I had to register to continue in my job*" and a further 37% said "*I was required to do so by my employer*". Perhaps unsurprisingly, many did not grasp the significance of registration since, for 70% (64% in hospital, 93% in community pharmacy), their pay remained the

same and 66% saw no change to their roles or responsibilities (80% in hospital, 63% in community pharmacy). 61% had an appreciation that their accountabilities and liability had increased with registration (70% in hospital, 58% in community pharmacy). [36]

3.7 The view of the regulator

During a presentation at the Royal Pharmaceutical Society's Conference in September 2014, the Chairman of the GPhC's governing council was pressed by a professor of Pharmacy Law and Ethics to explain why the GPhC had thus far failed to provide a statement to pharmacists which clarified that pharmacists should be able to confidently delegate tasks to registered pharmacy technicians. She argued that such a positive, enabling statement from the regulator would provide pharmacists with an appropriate regulatory safety net and would encourage them to delegate more tasks to pharmacy technicians. In his response, the GPhC Chairman indicated that the GPhC had created a register of pharmacy technicians, but a large proportion had joined this register through a grandparenting arrangement and as a result, there were some very variable standards amongst those on the register. He explained that it was therefore not possible for the regulator to take a blanket view and to recommend to pharmacists what roles they should delegate to pharmacy technicians. A generic approach to the group was not possible.

3.8 Other governance and public safety assurance issues with pharmacy technician training – for the pharmacy regulator

3.8.1 Length of course / training period

The GPhC requires a minimum work experience period of 2 years as a trainee prior to registration as a pharmacy technician. However, 51.8% of trainee pharmacy technicians working in community pharmacy take longer than 2 years to complete the training. [9] The GPhC's governing council

thinks it unlikely that a trainee pharmacy technician would achieve the desired outcomes in less than 2 years. [37]

A number of stakeholders have expressed views that the length of the training period ought to remain the same or be increased. This was a finding of GPhC-commissioned research involving representatives of employers, education providers and authorities and the Association of Pharmacy Technicians UK (APTUK). [19] In addition, a paper published jointly by the APTUK and the University of East Anglia said that in order to prepare pharmacy technicians for day one practice, increasing the length of training to incorporate new material and making the qualification degree level was identified as the most appropriate solution. [38] Whilst there is a need to review the suitability of pharmacy technician qualifications for the role they are to perform, this recommendation appears to have been based on a small number of comments from pharmacy technicians and emboldened and emphasized in the report because it coincides with the views of the researchers (the report states that the analysis method used allows researchers' own knowledge of the subject to be included in the interpretation of focus group data and that "*Some of the key comments have been emboldened by the researchers to highlight areas of particular need")*. Concerns with the quality of this research have been set out in Appendix C.

There appears to be strong support for increasing the minimum training period for pharmacy technicians, or at least keeping it the same. This was one of the recommendations of research commissioned by the GPhC in 2014 and 2015, alongside recommendations for a clear role definition for pharmacy technicians before the standards for their initial education and training could be revised in accordance with it. [19] [20] [21] Nevertheless, the GPhC commenced a consultation on the initial education and training standards for pharmacy technicians in December 2016, in the absence of a clear role definition. In the context of the above, and amid concerns expressed by members of its governing council, it sought views as part of that consultation on whether the two-year minimum training period could be removed. [37] [39] [21] Following the

consultation, in September 2017 it decided to update the standards, again in the absence of a role definition, but did not proceed with the proposal to remove the two-year minimum training period. It expects training courses based on the new standards to commence in September 2018. [3] [4] [5]

3.8.2 Entry requirements

There are no mandatory minimum entry requirements to train as a pharmacy technician, though information on the NHS careers website states "*Employers usually ask for at least 4 GCSEs (A-C), including English, maths and science or equivalent qualifications*" [40] and the GPhC states '*The entry requirements will vary depending on the course provider. However, as a guide, you might be expected to have the equivalent of four GCSEs at Grade C and above, including mathematics, English language, science and one other subject.'* [41] A minimum entry requirement of 'other academic requirements or experience equivalent to national level 2 or above' will be introduced in courses which meet its revised standards for initial education and training from September 2018. [3] [4] [5] This will therefore have applied to those qualifying from September 2020 onwards.

3.8.3 Supervision of initial education and training

In a document published in 2010, the GPhC stated that either a pharmacist or pharmacy technician could act as the designated educational supervisor to a trainee pharmacy technician. [42] In addition, in 2014 or earlier, it recommended that the choice of supervisor be made by the employer. [43] However, somewhat confusingly, it also stated in a separate document, dated December 2013, that the two years' relevant work-based experience in the UK must be done under the supervision, direction or guidance of a pharmacist. [1] [44]

In 2017, the GPhC formally consulted on whether pharmacy technicians should be able to supervise the initial education and training of pharmacy technicians. [39] It decided to allow this in its new standards for initial education and training, which it expects will apply to courses starting from September 2018 onwards. [3] [4] [5]

A non-pharmacist employer may apply commercial or other inappropriate criteria to the selection of a supervisor, which may not be in the best interests of the trainee and ultimately the public. Such an employer may also be poorly placed to assess the person's suitability to act as the supervisor. Pharmacists have the benefit of a much greater depth of understanding of the subjects that the pharmacy technician will study, greater knowledge of the context in which the pharmacy technician will work and more experience to call on than a pharmacy technician. In short, a pharmacist will generally have more "headroom" to act as a supervisor than a pharmacy technician. The requirement that a pharmacist must be the supervisor helps to ensure that the competencies and quality of service provision required in the long term can be achieved. Most of the existing group of pharmacy technicians have been "grandparented" on to the register; the GPhC Chairman has explained publicly that as a result, there were very variable standards among the group and it is therefore not possible for the GPhC to make a blanket recommendation to pharmacists as to what roles they should delegate to pharmacy technicians (see Section 3.7). For these reasons, among others, pharmacy technicians may be ill equipped to act in a supervisory role to trainees and allowing them to do so may undermine patient and public safety. The PDA raised concerns about this in its response to the GPhC's consultation on the standards for the initial education and training of pharmacy technicians, but these were not mentioned in the consultation report presented to the GPhC's governing council. [21] [3]

3.8.4 Training completion rates

An important distinction needs to be made between the course completion rate (the proportion of trainee pharmacy technicians who start the course and subsequently complete it) and the pass rate (the proportion of trainee pharmacy technicians who attempt to pass the course exams/assignments and successfully do so).

Although it has been identified that completion rates of initial education and training courses for pharmacy technicians were generally regarded as good, in one research study, a representative of a large community pharmacy multiple identified that trainees often struggled to complete the qualifications at all, even within a five- or six-year window and a representative of a different large community pharmacy multiple identified that the completion rate was less than 50%, which was lower than for medicines counter assistant courses. Interviews were conducted with those who worked closely with trainees or were in more senior positions. [9]

GPhC-commissioned research found that, generally, pharmacy technicians who do not complete their initial education and training often leave to perform a different role, because they have changed employer, or for personal reasons. [9]

3.8.5 Protected training time

Pharmacists' undergraduate training is full-time, allowing for a strong focus on the academic aspects. In contrast, many community pharmacy technicians have to complete their training in their own time. In fact, the PDA is aware of one large community pharmacy multiple providing less than 20 minutes of training time each week for all of the company's compulsory training, and trainee pharmacy technicians must sign a training contract agreeing that they will complete all of their coursework and further studies in their own time.

The cost to community pharmacy businesses has been identified as a major factor in determining whether pharmacy technicians would be released from their working day for protected education and training time. Costs may determine both the protected study time provided during working hours and the choice to use a distance learning provider rather than a further education college. [19] The costs may arise through additional staffing (if the trainee's protected time requires another person to provide cover, since the trainee would ordinarily be working) or loss of service provision and ultimately profit. However, because the negotiating process for community pharmacy funding is not conducted in the open, it is not clear what public funding has been provided for certain activities in community pharmacy.

The impact of costs was exemplified by the response from Walgreens Boots Alliance to a GPhC consultation on future standards for the initial education and training of pharmacists, pharmacy technicians and pharmacy support staff entitled 'Tomorrow's Pharmacy Team'. In relation to a question about the implementation of revised standards for pharmacy technicians, it stated: "*A lack of funding is likely to set the overall limits in terms of the number of pharmacists, pharmacy technicians and other support staff who can or will be trained.*" [16]

3.8.6 Variance in quality of training within and between sectors

Several GPhC-commissioned research studies have highlighted the fundamental and extensive differences in the training, experience and practice between pharmacy technicians working in the community and hospital pharmacy sectors. These are outlined in Appendix B. In addition, the quality of training and experience of individuals within a sector can be highly variable.

Notable comments from pharmacy technicians about the perceived lower calibre of community (relative to hospital) pharmacy technicians have been captured in research. [38] However, issues

have also been identified with the quality of training provided at Further Education Colleges (FECs), which are principally used by NHS hospitals and far less so by community pharmacies. One research study captured a total of 79 comments from pharmacy technicians who used FECs for their initial education and training. Overall, there were more negative than positive comments. Numerous comments related to the quality of the teaching standards, such as poorly taught lessons. It was also noted that at FECs, it may be difficult for trainees to fail units of the knowledge qualification because they would be coached to reach at least a pass level and they had opportunities to resubmit work or resit exams. The percentage pass rates were not published in the research paper. [9]

One research study, though not obtaining a representative sample, found that some pharmacy technicians were "*carrying out complex tasks, such as patient counselling, with no additional training*". It also reported that "*There were also concerns expressed about the relevance and suitability of pharmacy technician training to the job they are currently performing, with over a quarter of respondents saying they did not believe that their pre-registration training adequately prepared them for day one practice.*" [38] Commentary on the limitations of that study can be found in Appendix C.

Whilst all units in the knowledge qualification are mandatory, the pharmacy service skills competency qualification requires trainees to complete 14 core modules, plus 3 modules chosen from a selection depending on the sector in which the trainee is working. [19] There is no requirement for a pharmacy technician wishing to change sectors to complete further training on the modules specific to that sector. Yet, one study found that 5.3% of pharmacy technicians migrated from community to hospital pharmacy within the first year post-qualifying and a further 1.5% moved from hospital to community pharmacy. [9]

Representatives from both community and hospital pharmacy were concerned about the lack of emphasis on professionalism in the pharmacy technician training courses. [9] Such emphasis may be unnecessary for a non-professional role, but an explanation of what it means to be on a public register should be included.

As at late 2017, with no apparent plans for change, the same GPhC standards of initial education and training apply to courses for pharmacy technicians working in the community and hospital sectors. The difference between the roles in the hospital and community sectors is substantial, and it may be difficult for pharmacy technicians to obtain the evidence required by the standards when working in one particular sector and not the other. For example, it is unclear how trainee pharmacy technicians working in community pharmacy, many of whom may now be GPhC-registered, have demonstrated the extemporaneous preparation of medicines or acquired appropriate knowledge of the preparation of aseptic products – processes which are rare or non-existent in community pharmacy. [42]

3.8.7 Multiple methods of assessment

A further governance issue for the GPhC is that the use of singular methods of assessment conflicts with the requirements set in its 'Standards for the initial education and training of pharmacy technicians', September 2010. These state "*For knowledge based qualifications, assessment must be through a number of assessment methods*". [42] However, a number of course providers are using only singular assessment methods – either exams or assignments - but not both. [9] The GPhC has a statutory duty to take appropriate steps to satisfy itself that the education and training standards for pharmacy technicians to join the register are met (article 42 (3) (b) of the Pharmacy Order 2010). [45]

3.8.8 Variance between awarding bodies

The variance between awarding bodies was described by the following quote from an awarding body representative:

"[There is an issue with] the difference in the quality between [two awarding bodies named] because, again, anecdotally I've been told that some of the assessments or the assignments from [one] for the pass criteria are particularly minimal and it could just be filling in a word on a table, whereas the assessment for [another] is more robust. So how do you then assure that you've got the same pharmacy technician on the register?" [9]

Pharmacy technicians do not currently undertake Objective Structured Clinical Examinations (OSCEs) as part of their assessments, which are a commonly used method of assessing clinical skill performance and competence. The GPhC has suggested that these may be included in the future initial education and training of pharmacy technicians, but it has not stated that these will be mandatory or for what aspects of the training they may be suitable. [39]

3.8.9 Syllabus of learning

In December 2016, the GPhC proposed renewal of the standards of initial education and training of pharmacy technicians. [39] From September 2018, initial education and training courses for pharmacy technicians will no longer include a syllabus of learning, which in the current standards sets out the detail of what must be covered on training courses. [3] [4] [5] The absence of a syllabus is cause for concern that the training courses - and by extension, the capabilities and experiences of newly-registered pharmacy technicians - will become even more variable than has already been highlighted by the GPhC council's Chairman (see Section 3.7).

The GPhC has proposed to produce an evidence framework in early 2018, which will be a document providing suggestions to course providers as to how the standards of initial education

and training may be met. This document will not be formally consulted upon and will take the form of a guidance document, meaning it will not be mandatory or enforceable. [3] [4]

3.8.10 The study of ethics

The study of ethics will be removed from the initial education and training courses for pharmacy technicians from September 2018; it did feature in the syllabus set out in September 2010. [42] [46] The word 'ethics' does not appear in the GPhC's revised standards for the initial education and training of pharmacy technicians and there is no clear stipulation that the important concepts would have to be covered during the training. The ability to apply ethical reasoning – juxtaposing the law, regulation and the interests of the patient - is one of the hallmarks of professional practice. The study and application of ethics is unnecessary for a technical role and as such the removal of the study of it from the initial education and training courses for pharmacy technicians is appropriate. However, it may be beneficial for pharmacy technicians to understand the concept of ethics and that pharmacists will apply ethical reasoning in their practice.

3.8.11 Ability to plagiarize, cheat or collude on exams and assessments

The ability for trainee pharmacy technicians to cheat or collude on assessments during their initial education and training has been highlighted in research published in 2014. An awarding body highlighted the potential for internet-based research plagiarism in the completion of assignments, and a distance learning provider had seen other colleagues assisting pharmacy technicians with online assessments and helping with the answers to assessment questions, whilst the trainee's underpinning understanding and practice remained absent. [9]

Distance learning courses are completed by trainee pharmacy technicians throughout the UK. In Great Britain, initial education and training courses are accredited by the GPhC. As such, many

trainee pharmacy technicians complete the same course, often with little contact with other trainees in their workplace. Over a period of several years, an extensive range of requests for help in answering assessment questions for particular course providers, with reference to particular modules and question numbers, have appeared online. Other users often provide the answers, which in some cases may be model answers, or state what grading was achieved for a particular answer. These are published and left for others to see. Communication also appears to occur through private messaging. Examples can be found in Appendix D.

This may mean that many pharmacy technicians use the same answers to complete a given course, without fully understanding why the answer is correct, or wholly or partly incorrect. The GPhC does not appear to have addressed this apparent collusion, though it is evident on a well-known online pharmacy forum, the content of which is visible to the public. The number of pharmacy technicians in the UK currently on the register who have accessed this material to aid the completion of their training, exams and assessments is unknown. The forum threads listed in Appendix D, each of which was first started between 30 October 2011 and 7 January 2018, had been viewed a combined 61,483 times when checked on 22 March 2018.

Examples of collusion through social media and digital means in other healthcare areas have featured in the press. For example, 270 medical students at the University of Glasgow were required to re-sit their examinations after it was discovered that students had colluded online by sharing the details of the assessments they would face in an Objective Structured Clinical Examination (OSCE). The University did not know how many students had taken advantage of the online information, so the entire cohort was required to retake the assessments. [47]

A further difficulty is that in the community pharmacy setting, pharmacists are expected to supervise the exam conditions for the trainee, with no regulatory requirement that additional staffing cover be provided to enable them to do so. Similarly, the pharmacy regulator has not

specified the conditions under which the exams must be conducted. A pharmacist's first responsibility must be to the immediate needs of patients. The workplace pressure created by some employers may cause difficulties in enforcing exam conditions in the absence of any applicable regulatory requirements from the GPhC.

3.8.12 Regulatory oversight of training

For pharmacists, the GPhC directly accredits the training provided by universities; as such, the accreditation is done at the site where the training is delivered. For pharmacy technicians, the GPhC "recognises" the qualifications provided by the City & Guilds and Pearson Edexcel awarding bodies through a meeting with them, but does not directly accredit the qualifications. It does directly accredit the SQA qualifications and distance learning courses provided by the NPA and Buttercups. This involves reaccreditation after three years but does not require a monitoring visit to the provider from the GPhC. Instead, the provider visits the GPhC to provide assurances, meaning fundamental changes affecting the provision of the qualification may not be identified. Distance learning providers send an annual report to the GPhC outlining any changes to course provision.

The governance and quality assurance of individual training providers, i.e. evaluation of whether they meet minimum standards (which may themselves be subject to interpretation), is left to the awarding bodies and distance learning providers. The GPhC does not visit individual education and training sites to review the quality and nature of the training provided. It has identified that ongoing quality monitoring would be a positive thing, but that the cost of implementing it may be prohibitive. [9]

3.9 Initial education and training in other healthcare sectors - a comparison of qualifications and educational status

3.9.1 The dental sector

All dental practitioners have been registered with the General Dental Council (GDC) since 2007, in one of seven groups:

- Dentist
- Dental nurse
- Orthodontic therapist
- Dental hygienist
- Dental therapist
- Dental technician
- Clinical dental technician [48]

The dental sector provides a good exemplar of how skill mix has been developed to support the work of the dentist and to improve the service to patients. Each group has its own training requirements and the sector's career structure makes use of a skills escalator. The GDC introduced 'Scope of practice' in 2013, a document which describes the areas in which members of each registrant group have the knowledge, skills and experience to practise safely and effectively in the interests of patients. [49]

Dentists cannot practise without another member of the dental team present, typically a dental nurse, for the purposes of chaperoning and infection control. [50] [51] Until recently, every member of the dental team had to work under the direct supervision of a dentist and as a result of a dentist's prescription. However, the GDC introduced a 'direct access' policy in April 2013, which allows dental hygienists and dental therapists to carry out the full scope of their practice

without direct supervision, without prescription from a dentist and without the patient having to see a dentist first. [52]

Dental technicians (also known as dental technologists) make dentures, crowns, bridges and dental braces according to prescriptions from dentists or doctors. Dental technicians must be registered with the GDC. Qualifications include the BTEC National Diploma in Dental Technology, a foundation degree, or a BSc (Hons) degree in Dental Technology. [53] [54]

N.B. Some dental technicians and dental nurses have gained registered status through a 'grandparent clause' and may be lacking formal qualifications. [55] [56] [57] [58]

Clinical dental technicians design, create, construct, modify and fit removable dental appliances and are able to work independently of other dental team members. They are qualified and experienced dental technicians who have undertaken additional training in sciences, clinical skills and interpersonal skills. [53] [59]

Dental hygienists scale and polish teeth and apply topical fluoride and fissure sealants. Those based in hospital may also help patients having surgery or complicated orthodontic treatment, or those with particular medical conditions, to maintain a healthy mouth.
Dental hygienists must be registered with the GDC and have undertaken an approved diploma or degree course. The diploma or foundation degree course is usually two years long on a full-time basis and is offered by dental schools. The degree course takes three years on a full-time basis. Course entry requirements are five GCSEs at grades A-C and two A-levels, or a recognised dental nursing qualification. [60] [61]

Dental therapists can carry out a range of procedures, following the written instructions of a dentist, including:

- Intra- and extra- oral assessment
- Scaling and polishing
- Applying materials to teeth such as fluoride and fissure sealants
- Taking dental radiographs
- Providing dental health education on a one to one basis or in a group situation
- Undertaking routine restorations in both deciduous and permanent teeth, on children and adults
- Extracting deciduous teeth under local infiltration analgesia.

Provided that they have completed appropriate training, dental therapists can perform extended duties, including:

- Placing pre-formed crowns on deciduous teeth
- Administering inferior dental nerve block analgesia under the supervision of a dentist
- Providing emergency temporary replacement of crowns and fillings
- Taking impressions
- Treating patients under conscious sedation, provided a second appropriately-trained person remains present throughout the treatment.

Entrance requirements are five GCSE subjects at grades A-C, plus two A levels or a recognized qualification in dental nursing. Dental therapists must obtain a diploma in dental therapy offered by a number of hospitals, which requires around 27 months of full-time study, or a three-to-four year full-time degree approved by the GDC. [62] [63] [64]

Orthodontic therapists assist dentists in carrying out orthodontic treatment and provide some aspects of the treatment themselves. They also carry out treatments to assist patients in an emergency by relieving pain or making appliances safe. In order to train as such, individuals need to be qualified in dental nursing, dental hygiene, dental therapy or dental technology and also need to have a period of post-qualification experience. A number of approved training providers offer diploma courses that are equivalent to a year's full-time training. [49] [65] [66] [67] [68]

Dental nurses support the dentist in all aspects of a patient's care, which includes getting the appropriate instruments ready, mixing materials and ensuring patient comfort. They take notes from dentists' dictation, maintain the physical standard of the surgery and sterilise instruments.

Dental nurses must be registered with the GDC, and to register they must have completed a GDC-approved course. There are two ways to gain this qualification:

1. Part-time study for the National Diploma in Dental Nursing, NVQ level 3 in Dental Nursing, level 3 vocationally-related qualification (VRQ) in Dental Nursing or QCF level 3 Diploma in Dental Nursing, whilst working as a trainee dental nurse.
2. A full-time, GDC-approved course offered by a small number of universities.

No academic qualifications are required to work as a trainee dental nurse, but in order to progress, they need to study for an approved course in dental nursing. Part-time courses typically require GCSEs at grades D-G, although others may require grades A-C. Full time courses may require A-levels. [69] [70]

3.9.2 The optical sector

Optometrists are healthcare professionals who examine eyes and test sight. They prescribe and fit spectacles or contact lenses, give advice on visual problems and detect ocular diseases and abnormalities, referring the patient to a medical practitioner if necessary. Optometrists may also share the care of patients who have chronic ophthalmic conditions with a medical practitioner. Qualified optometrists can undertake further training to specialise in certain eye treatment by therapeutic drugs.

Optometrists must graduate with at least a 2:2 honours degree from one of eight General Optical Council- (GOC-) approved universities. They must then achieve the Stage 1 competencies required to enter the pre-registration period. The supervised pre-registration period includes work-based assessment and a final assessment on the Stage 2 core competencies for optometry, before registration with the GOC. [71] [72] [73]

Dispensing opticians are technicians trained to advise on, fit and supply the most appropriate spectacles after taking each patient's visual, lifestyle and vocational needs into account. They are also able to fit and provide aftercare for contact lenses after undergoing further specialist training. On completion, practitioners are placed onto a specialty register. [73]

Dispensing opticians must be registered with the GOC. To qualify, they must pass a three-year course in dispensing optics at a GOC-approved institution. There are three modes of study to choose from:

- A two-year full-time training course followed by a year's salaried work in a practice, under supervision
- A three-year day release training course, combined with suitable employment
- A three-year distance learning course, combined with suitable employment.

Trainees must then pass all parts of the qualifying examinations before they can register with the GOC. [74]

3.9.3 Veterinary medicine

Veterinary nurses provide nursing care to animals within a veterinary practice. Tasks that veterinary nurses may be called on to perform (under veterinary direction and/or supervision) include:

- Maintaining anaesthesia and performing minor surgical procedures
- Nursing sick animals and administering medication
- Taking x-rays and carrying out diagnostic tests
- Advising owners on the health and welfare of their pets
- Cleaning animal accommodation.

Veterinary nurses can become qualified either by a vocational day-release or full-time level 3 Diploma in Veterinary Nursing, or through higher education (a foundation or honours degree in veterinary nursing). Students who want to train as a veterinary nurse must be eligible to enrol with the Royal College of Veterinary Surgeons (RCVS) as a student. To be eligible, they must have at least five GCSEs at grade C or above, including English, maths and a science subject. Once qualified, veterinary nurses are eligible to join the RCVS Register of Veterinary Nurses and use the post nominals RVN. Registered veterinary nurses must undertake 45 hours of CPD over a three-year period. [75] [76]

Table 2 - Technician and intermediate roles supporting health professionals in regulated healthcare environments - training and registration compared

Job	Entry requirements for training	Qualification required	Full or part-time training	Examination required to register	Grandparent clause option
Dental nurse	Two GCSEs at grade C or above in English language and maths or a science for part-time courses, A or AS level for full-time courses [77]	National diploma, NVQ3, GDC-approved course (e.g. foundation degree) [78]	Diploma and NVQ are part-time, but university course is full-time [79]	No [80]	Yes, transitional period of two years before mandatory registration in 2008 for those who had worked full-time for at least four of the previous eight years, [81] plus a recognised qualification or certificate of competence.
Dental technician	Four GCSEs at grade C or above for BTEC National Diploma, A-levels for BSc [53]	BTEC National Diploma in Dental Technology, foundation or BSc honours degree [53]	BTEC National Diploma and foundation degree can be either full- or part-time, BSc honours degree will be full time [53]	No [80]	Yes, transitional period of two years before mandatory registration in 2008. For those who had worked full-time for at least seven of the previous ten years, plus an acceptable qualification. [53] [82]
Dispensing optician	One or more A-levels to include a science subject, plus five GCSEs at grade C or above [83]	Three-year diploma or degree course in ophthalmic dispensing [84]	Two-year's full-time, followed by a year's supervised work experience, *or:* three-year course of either day-release or distance-learning,	Yes [84]	No

Job	Entry requirements for training	Qualification required	Full or part-time training	Examination required to register	Grandparent clause option
			combined with suitable employment [84]		
Veterinary nurse	Five GCSEs, at grade C or above or equivalent level 2 qualification [85]	Level 3 diploma, or foundation or honours degree [86] [87]	Diploma can be vocational day-release or full-time [88]	Diploma or degree to be supplemented by at least 94 weeks' approved education, including a period of practical training practice equivalent to 1,800 hours. [86] Until September 2016, this also included a requirement of at least 700 guided learning hours. [89]	All veterinary nurses that joined the RCVS since 1 January 2003 either transferred automatically from the List to the Register when it opened in 2007, transferred voluntarily or were automatically transferred on 17 February 2015. [90]
Pharmacy technician	None but employers may require NVQ2	NVQ3 in Pharmacy Service Skills plus NVQ3 in	Part-time. Coursework often completed in own time as a distance	No	Yes, transitional period of six years before mandatory registration in 2011. Either working not

Job	Entry requirements for training	Qualification required	Full or part-time training	Examination required to register	Grandparent clause option
		Pharmaceutical Science	learning course (see Appendix B). Training in hospitals more likely to involve 1 day per week training at college over 2 years.		less than 14 hours per week for 4 out of the previous 8 years or not less than 28 hours per week for 2 out of the previous 4 years, plus a recognised qualification.

3.10 An independent viewpoint on the appropriateness of technician qualifications in the UK

There is already considerable concern over the ambiguous approach and the general standard of qualification that has become acceptable in the UK, insofar as it relates to the development of technician roles. The Gatsby Foundation's report on 'Technicians and intermediate roles in the healthcare sector' found that case study evidence suggests the intermediate level in the healthcare sector is generally associated with level 4/5 qualifications. In some cases (e.g. dental technicians and pharmacy technicians) these are substantial (in terms of knowledge component and size) level 3 qualifications. In some other occupational areas (e.g. maternity, radiography and healthcare sciences), the pathway to intermediate level was variable, but these intermediate roles were often associated with the acquisition of foundation degrees (level 5).

The report reads: "*It was noted that qualifications included in the healthcare frameworks in the government-supported Advanced Apprenticeship programme (level 3) were normally linked to lighter weight generic health and social support roles rather than substantial occupationally specific qualifications.*"

It was recommended in the report that: "*There needs to be a review of the appropriateness of the diverse range of level 3 qualifications used in the healthcare sector, and their relationship to supporting intermediate level work and career development in each occupational area.*"

It is stated in the report: "*there is ambiguity in the way technicians are positioned in relation to qualification levels. In the UK and internationally, science, engineering and technology (SET) technicians are typically associated with sub-bachelor level qualifications (e.g., HNC/D, foundation degree, qualification level 4/5), but in the UK policy literature, level 3 qualifications are also increasingly being equated to technician level.*"

Table 7 provides summary information relating to level 3 qualifications for the range of occupations considered in this research, and reveals wide differences between the content of qualifications. For pharmacy and dental technicians, inclusion of a knowledge-based qualification differentiates them from occupations where the associated level 3 qualification is competency-based. The number of "Guided Learning Hours" for each of the qualifications presented in the table provides an indication of the differences in their size and substance.

The report concluded that: "*Overall, the way in which level 3 qualifications have been developed suggests that they fall short of reflecting the educational and training requirements to undertake intermediate roles. The development of training for intermediate-level posts, which enable staff to complete tasks previously only carried out by registered staff, would seem to match more closely to sub-bachelor degree level provision such as foundation degrees.*" [91] This is an important principle to consider when considering the roles of pharmacy technicians and how they might be developed in the future.

Table 3 - Examples of level 3 health qualifications

Qualification	Optional pathways/occupations	Guided learning hours [91]
Diploma in Allied Health Profession Support	Dietetics, physiotherapy, occupational therapy, speech and language therapy, radiography	373-490
Diploma in Blood Donor Support	Blood donor support	411-483
Diploma in Clinical Healthcare Support	Healthcare assistant	373-494
Diploma in Maternity and Paediatric Support	Maternity, neo-natal, paediatrics	376-502
Diploma in Pathology Support	Pathology support	411-483

Qualification	Optional pathways/occupations	Guided learning hours [91]
Diploma in Perioperative Support	Perioperative/theatre support	468-709
BTEC Level 3 Extended Diploma in Dental Technology	Dental technician	1,080
Diploma NVQ in Pharmacy Service Skills and Diploma in Pharmaceutical Science	**Pharmacy technician**	344-352 720

3.11 Conclusions

1. The qualifications required to register with the GPhC as a pharmacy technician are significantly below the standard required within other regulated healthcare roles. Whether the NVQ level 3, which is the level currently set by the GPhC, is sufficiently rigorous for a healthcare technician engaged in a demanding and often patient-facing role, is debatable. However, if there is a government desire to enable pharmacists to delegate some of their patient-facing functions to pharmacy technicians – functions which carry considerably higher levels of responsibility than those currently performed by pharmacy technicians – then it is legitimate to question whether an NVQ level 3 qualification would be adequate to ensure public safety. This would be particularly of concern were it to be proposed that pharmacy technicians could perform patient-facing functions, currently performed by pharmacists, in the absence and without the supervision of a pharmacist.

2. The majority of current pharmacy technicians (73%) registered via the grandparent clause and undertook qualifications which may be less rigorous than the current formal NVQ level 3 qualifications or exams, thus creating risks and challenges in respect of public safety, public protection and public safety assurance, which the GPhC must address. This was encapsulated and crystallized by the Chairman of the GPhC's governing council when he highlighted that grandparenting of pharmacy technicians resulted in highly variable standards among the group and prevented the regulator taking a blanket view as to what roles pharmacists could delegate to pharmacy technicians.

3. That a substantial proportion of pharmacy technicians registered shortly before the deadline for the end of the grandparenting arrangements calls into question the motivation for registration. It may suggest that significant numbers of technicians registered at the behest of their employers or because registration was required to enable them to continue in their existing jobs - rather than as a result of a desire to become a regulated occupation. Considered alongside the survey of pharmacy technicians carried out by JRA research on behalf of the PDA, it may suggest that some did not appreciate the implications of registration with the regulator.

4. The GPhC does not hold records of any assessment having ever been conducted as to whether the qualifications with which a person could be grandparented on to the register as a pharmacy technician were appropriate for that purpose. Neither does the Royal Pharmaceutical Society hold records of any such assessment having been conducted by the RPSGB, which was the regulator at the time that grandparenting was introduced.

5. There does not appear to have ever been a definition of a pharmacy technician's role which would distinguish it from that of a dispensing assistant.

6. There are fundamental issues with the training and education standards for pharmacy technicians that have been in place since June 2011 when grandparenting arrangements ceased. Not the least of these issues is that there is the potential for cheating, collusion and plagiarism and the diminution of learning across the UK due to the availability online of answers to specific questions in distance learning courses.

7. The role of the pharmacy technician remains poorly defined and it has long been the case that there is little to distinguish the role of the pharmacy technician from that of a dispensing assistant in day to day practice in community pharmacy. In these circumstances, the initial education and training of pharmacy technicians may lead to the trained person's skillset becoming aligned to that of a dispensing assistant. In addition, anything learned during a training course which would be beyond the role of a dispensing assistant may not have been put in to practice and any additional skills may not have been maintained since qualification. For this reason, among others, it would be difficult to place any reliance in the future upon the training previously undertaken by existing pharmacy technicians, or indeed their current registration, as a basis for extending the pharmacy technician's role.

8. There is widespread variation in the quality and nature of the initial education and training provided to pharmacy technicians. The regulatory standards for initial education and training are open to interpretation. They have been outdated for a considerable period of time and are of questionable relevance since the pharmacy technician role is poorly defined. In addition, there has been very little – if any - involvement from the GPhC in monitoring the delivery of the course at individual training sites. For these reasons, it may be very difficult for the regulator to provide the requisite public safety assurances in respect of any more advanced roles and responsibilities even in relation to non-grandparented pharmacy technicians. If the issues with the initial education and training were addressed now for future trainees, it would not alter the difficulties in providing assurances in respect of pharmacy technicians who are already on the register and who would be trained to different, inferior standards.

9. Pharmacist supervision of the initial education and training of pharmacy technicians is particularly important in the community pharmacy sector, where the role of a pharmacy technician is indistinct from that of a dispensing assistant, and any underpinning scientific or clinical knowledge learned during the initial training beyond that required to dispense prescriptions may not have been put in to practice by the pharmacy technician since qualifying. Pharmacy technicians may generally have insufficient "headroom" – in terms of additional knowledge, skills and experience - to act as effective supervisors to trainees. It is important for public safety assurance purposes that a pharmacist supervise the initial education and training in all sectors of practice.

10. A pharmacist selecting who will act as the supervisor to a trainee pharmacy technician should help to ensure that the training experience results in the best possible outcome for patients and the trainee. A non-pharmacist employer may apply commercial or other criteria to the selection of a supervisor, which may not be in the best interests of the trainee - and ultimately, the public. The non-pharmacist employer may be poorly placed to assess a person's suitability to act as the supervisor.

11. Whilst the same standards of initial education and training of pharmacy technicians are applied to trainees in both the community and hospital sectors, and no role definition exists in community pharmacy, the progress and development of the role in all sectors will be impeded. However, if the role of existing pharmacy technicians in hospitals continues to evolve, the relevance and suitability of the training for that sector, whilst it remains aligned to community pharmacy, will be reduced.

12. A further consideration for the regulator is that the standards and regulatory oversight of training for pharmacy technicians are poorer than those for pharmacists on a number of levels, as shown in Appendix A. The consequence is that despite the fact that there is a public register, registration does not provide a sufficiently robust standard upon which to build a reliable and scalable skill mix model. Indeed, this is a concern that has been openly expressed by the GPhC's Chairman, indicating that this impacts upon regulatory considerations and, potentially, the safety of the public.

13. The pharmacy sector could learn much from the dental sector in this regard, which appears to lead the way in skill mix through the development of healthcare technicians. With all dental roles registered since 2007 and now divided into one of seven groups, each with its own training requirements and career structure, dentistry makes good use of skill mix and the skills and salary escalator to ensure all its registrants have clearly defined roles and responsibilities, with each group making optimal use of its skills and qualifications whilst maintaining patient safety. This has enabled those at the top of the skills escalator - dentists - to develop additional roles suited to their expertise, whilst ensuring all dental practitioners have a satisfying and rewarding career structure.

14. In contrast, the six years of mandatory pharmacy technician registration, which has elapsed since June 2011, has done little to encourage development of the roles of pharmacists and pharmacy technicians. At least two-thirds of pharmacy technicians (and 80% of those working in hospitals) say their roles and responsibilities have not changed since registration. [36] A research study in community pharmacy in 2014 found that the role of the pharmacist was still dominated by the dispensing function, with little development of extended roles; it had not changed as a result of pharmacy technician registration. [92]

15. If the purpose of pharmacy technician registration was to enhance professional standing, extend the pharmacy team's role and improve patient protection, it appears to have failed in this objective. A review of pharmacy regulation could be the first step towards putting this right.

3.12 Recommendations

1. The initial education and training requirements of pharmacy technicians should be substantially revised after the roles of pharmacists and pharmacy technicians respectively have been reviewed and an effective skill mix model, accompanying salary escalators and clear role definitions have been established in the community pharmacy sector.

2. The current variance in the training and educational standards of existing pharmacy technicians presents risks to the proper development of skill mix in community pharmacy and must be addressed.

3. The pharmacy regulator must play an active role in accrediting, reaccrediting and monitoring individual pharmacy technician education and training providers and sites, as it does for pharmacist training. Where there is a failure to meet its standards, the GPhC must take corrective action to address this, including issuing sanctions where appropriate.

4. A pharmacist, and not a pharmacy technician, must supervise the initial education and training of pharmacy technicians and act as the designated educational supervisor.

5. A pharmacist, and not a non-pharmacist employer, must determine who will act as the designated educational supervisor to a trainee pharmacy technician.

6. A minimum entry level requirement should be established of at least 5 GCSEs at grade C or above, including Maths, English and either Chemistry or Biology, for enrolment on to pharmacy technician initial education and training courses.

7. As part of the initial education and training standards for pharmacy technicians, the GPhC must provide an indicative syllabus to specify what must be covered on training courses.

8. The current level 3 qualification for pharmacy technicians is not sufficiently robust to enable skill mix to flourish. A level 4/5 educational (HNC/HND/foundation degree) standard must be achieved so as to deliver the requisite standard of pharmacy technician training and qualification.

9. A registration assessment for all pharmacy technicians should be established as a condition of formal registration. This would provide quality assurance and guarantee a minimum level of knowledge. This process should be administered by the GPhC.

10. Pharmacy technician initial education and training courses must include a component of regular day release for training and study time at a further education college (FEC). This should involve a minimum of one day per week at the FEC for two years, with an allowance for annual leave and public holidays. This must apply to both the knowledge and competency components.

11. Pharmacy technician training must include formal progress reports, carried out by the tutor every 13 weeks as for pharmacists, which must be sent to the GPhC if unsatisfactory. [93]

12. Pharmacists, as tutors to trainee pharmacy technicians, must receive better support from employers. This should be in the form of training and guidance for the role and dedicated protected time provided by the employer to act as a tutor. The GPhC should set and enforce standards in this regard.

13. To address the problems associated with the poor definition of pharmacy technician roles, pharmacy technicians should be divided into a number of specific groups with a particular level of skill, similar to the model used in the dental sector. A scope of practice document should be developed and an associated skills and salary escalator established, outlining the additional education (beyond that gained through initial education and training), knowledge, skills and experience required to practice safely in the varying roles. Each role should support a specific aspect of the work that a pharmacy technician might undertake to support the role of a pharmacist e.g. Accuracy Checking Technician, dispensing technician, hospital pharmacy ward-based technician, hospital pharmacy aseptic services technician, GP surgery-based pharmacy technician or clinic pharmacy technician.

14. Significant concerns exist about the extent to which the register of pharmacy technicians is reliant upon the grandparent clause as this undermines pharmacists' confidence to delegate tasks. This should be urgently reviewed by the GPhC. The GPhC must subsequently provide a clear statement about the delegation of tasks to grandparented pharmacy technicians and offer clear guidance to pharmacists. Until

this is done, pharmacists will find it very difficult to delegate more advanced tasks to pharmacy technicians.

15. The public register of pharmacy technicians should be annotated for those individuals who have been grandparented on to it and for those in possession of recent NVQ3 qualifications.

16. Any requisite training for pharmacy technicians must be directly accredited and comprehensively monitored and assured by the regulator.

17. Pharmacy technician qualifications should be achieved through different types of assessment, including assignments, OSCEs and modular exams, with monitoring and enforcement of these requirements by the regulator.

18. The GPhC must investigate any potential cheating, collusion or plagiarism evident on online pharmacy forums and digital channels. It must publish its findings, take appropriate steps to assure the safety of the public and provide assurances in that regard. This may include requiring all pharmacy technicians who have undertaken the affected course(s) in the relevant time period to sit a registration exam in order to remain on the GPhC register.

19. The combined effect of the regulatory governance and quality issues set out in this report, on the ability of pharmacy technicians to perform a defined role, must be evaluated and addressed. The GPhC must then take the necessary steps to provide assurance to the public that pharmacy technicians are competent to practise in their roles in the context of these issues.

20. Consideration should be given to requiring pharmacy technicians to complete additional relevant training as preparation for transferring between sectors of pharmacy practice.

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