ABSTRACT

Objectives: To determine the current structure of experiential learning (EL) in Master of Pharmacy (MPharm) programmes in UK universities, and assess how they meet the standards specified by the General Pharmaceutical Council

Methods: A cross-sectional survey of staff in charge of EL in MPharm programmes was conducted, utilizing a 31-item on-line survey, consisting of both open and close-ended questions. Variables of interest were administrative aspects and structure of the EL component, tutor issues, and placement sites. To pinpoint the challenges faced with EL, the Relative Importance Index (RII) was calculated.

Key findings: Twenty (66.7%) universities responded. EL coordinators were mostly academic/teaching fellows (19), and spent 0.29 ± 0.31 Full Time Equivalents on coordination. Tutors completed training annually in 53.8% of universities, with topics focusing on placement structure (85.7%) and requirements (78.6%). Total placement hours in all practice sites over the four years of study ranged from 54 to 496 hours, and included hospitals, community pharmacies, hospices, prisons, and nursing homes. The three biggest challenges faced with regard to EL were in obtaining/retaining hospital placements (1st), financial support (2nd), and quality assurance of tutors (3rd).

Conclusions: While there has been an increase in the variety of placement sites and hours since the last survey in 2003, universities face challenges in terms of staffing and obtaining placement sites. There are also gaps in tutor training. More standardization and regulation of the quality assurance of the EL programme, placement sites, and tutors is needed to ensure students obtain the most out of their placements.

Keywords: Experiential learning, MPharm, tutor, placements, standards

Introduction

In the United Kingdom (UK), undergraduate pharmacy students normally undertake a 4-year Master of Pharmacy (MPharm) degree followed by a year of pre-registration training to qualify for registration with the General Pharmaceutical Council (GPhC), the regulator of pharmacists in Great Britain since 2010.[1,2] Some courses are offered as a 5-year integrated degree. All courses need to meet the GPhC Standards for the Initial Education and Training of Pharmacists, and a 5-year degree will also meet the GPhC Standards for pre-registration training.[3] As part of the 4-year degree, students are required to undertake experiential learning (EL) placements, where students learn through reflection on their experience,[4] which has been found to help develop students' self-confidence, communication skills, and confidence in undertaking clinical activities. [5-9]Under the Standards for the Initial Education and Training of Pharmacists, the importance of EL placements was highlighted, with a provision that these placements should increase year on year.[3] The standards also emphasized the need for support to be provided to those involved in the education and training of pharmacists such as tutors, and that placement sites have the quality and capacity to support students. In the UK, the term 'tutor' is used instead of 'preceptor' which is used in the United States (US), and denotes a 'registered, practising pharmacist who supervises pharmacy students during placement'.[10]

The Doctor of Pharmacy (PharmD) programme in the US has specific requirements for placement hours, and different avenues for providing students with EL experiences due to different legislations.[11,12] The PharmD system has two components, the Introductory Pharmacy Practice Experience and Advanced Pharmacy Practice Experience, and as such requires more placement sites, dedicated EL staff, and trained tutors.[13] In the UK there is a

52-week pre-registration year but no prescribed amount of EL in the undergraduate programme. However, with the projected increase in student numbers in the UK, issues like staffing and placement sites become significant due to capacity issues.

Two nationwide studies on EL programmes have been conducted in the US, in 2008 and 2013, which investigated areas such as staffing, program structure, and issues related to placements and tutors.[13,14] There has, however, yet to be a similar study done in the UK**.** A nationwide study of MPharm programmes[15] in 2003 revealed that EL was predominantly in hospitals, and chiefly in the penultimate and final years. Hospital placements varied from a few hours to 16 days, while experiences in community pharmacy were only offered by two universities and were mainly on Saturdays or vacation work self-organised by students. Placements in primary care and community pharmacy were rare due to problems with access and resources. Two major difficulties expressed by respondents were securing external partners, and funding the EL. That study, however, only involved 16 universities, touched briefly on EL, and was conducted when the programmes were regulated by the Royal Pharmaceutical Society of Great Britain.[15] Therefore, the current study aimed to determine the current structure of EL in MPharm programmes in UK universities, and to assess how they meet the standards specified by the GPhC.

Methods

This was a cross-sectional survey of Directors of EL or people in charge of EL in MPharm programmes in all universities in the UK. There are 30 UK universities accredited to offer an MPharm degree.[16] The survey and the participant information sheet were hosted on an online platform, Qualtrics, and an anonymous link was emailed to all 30 UK universities. Contact details of the EL director was obtained from the School website. Where not available,

an email was sent to either the Head of Department, or the Director of the MPharm programme. No financial incentives were offered, and reminder emails were sent out to all universities two weeks after the initial email. The Departmental Ethics committee stated that full ethical approval was not required.

The survey form was a 31-item anonymous self-report consisting of five open and 25 closed questions. It contained eight questions on the administrative aspects of the EL programme, 18 questions related to the stucture of EL, and five questions on tutors involved in the EL programme.Under 'Structure', participants were also asked to rank the challenges faces from '1' to '5', with '1' being the most important, and '5' being the least important (Supplemental material 1). Respondents were allowed to omit responses to open-ended questions if desired. No demographic details were obtained. The survey was developed based on two surveys conducted in the US,[13,14] and adapted according to the scenario in the UK, the standards set by the GPhC,[3] the study objectives, and a review of the literature.

A total of seven people with varying expertise in EL, survey design, English, and pharmacy education, performed face and content validation. The survey was pilot-tested on two academics with experience in EL, one administrator involved in EL, and one expert in survey design, to assess their comprehension of the survey and the time taken to complete it. These four were not involved in the validation, and their responses were not included in the final analysis. Following the pilot study, suggestions were given on ways to improve the technical aspects of the survey, and these were amended accordingly. The survey took approximately 15-20 minutes to complete.

Data management and analysis

All analyses were performed using SPSS 24.0 (SPSS Inc, Chicago, IL, USA) and Microsoft Excel. To pinpoint the challenges faced with EL, the Relative Importance Index (RII) was calculated for each of the 19 challenges listed (17 listed, two additional provided by respondents). Ranking was then done according to the RII value to determine the top five challenges. Calculation of the RII was done according to the following equation:

$$RII\ (\%) = (n_1 + 2n_2 + 3n_3 + 4n_4 + 5n_5) / 5\ (n_1 + n_2 + n_3 + n_4 + n_5) \times 100\%$$

where $n_1, n_2, n_3, n_4, and\ n_5$ are the numbers of respondents who scored between 1 to 5, with "1" representing least important, and "5" representing most important.[17]

Results

Twenty of the 30 pharmacy schools responded (66.7%), and of these, 15 (75%) responded to the 25 closed questions. The average number of graduates in each year was 101.11 (± 31.42), with a range from 40 to 140. Four universities currently offer a 5-year MPharm programme together with the 4-year programme, while one only offered the 5-year programme. In 19 of the universities, the EL coordinator was an academic/teaching fellow, and of these, 13 (76.5%) were part of the MPharm teaching management committee. Eighteen (94.7%) EL coordinators were pharmacists. Further details on the administrative aspects are provided in Table 1.

Eight (53.3%) universities believed that students should receive EL credit for pharmacy employment, which is with regard to part-time work in a pharmacy; 12 (80%) indicated that EL was part of a larger class/module, three (20%) stated that it was a stand-alone graduation

requirement, two (13.3%) said it was its own class/module, while one commented that EL was integrated with on-campus learning each year. Three (20%) universities indicated that EL was assigned university credit, however none could specify the total credit hours given for the entire EL requirement. Three (20%) universities relied only on reflective diaries submitted by students for assessment.

All respondents stated that onsite visits constituted a visit, while a smaller number stated that phone calls (30.8%) and email contact (23.1%) were considered as visits. Six (40%) universities paid the placement sites, with all six making payments to both community pharmacies and hospitals. Other placement sites that received payments were charities, hospices, and general practitioners (GPs), as noted by one respondent each. One university stated that staff were provided to help run GP placements in lieu of payment. Nine (60%) universities did not pay their placement sites (Table 2).

Total placement hours in all practice sites over the four years of study ranged from 54 to 496 hours, while placements in the community and hospital ranged from 9 to 146 hours and 14 to 103 hours, respectively. Six (30%) universities offered placements in community pharmacies in all four years of the programme, while eight (40%) offered hospital placements in all four years. Only one university offered international placements. The majority offered placements in the community (75%) and hospital (60%) in the first year, while seven (35%) and 10 (50%) universities offered placements in the community and hospital, respectively, in the final year. Optional placements mentioned were alcohol misuse clinics, on-site health checks, attachments with an optician, interprofessional education sessions, simulated patients, and self-directed electives which could include placements at prisons, hospices, or charities (Table 3).

Respondents ranked 'obtaining/retaining hospital placements' as the factor they found most challenging with regard to EL, followed by 'financial support', and quality assurance of tutors (Table 4). Approximately 50% of respondents indicated that tutors completed training annually, with placement structure (85.7%) and placement requirements (78.6%) the main topics covered in tutor-training programmes (Table 5).

Discussion

This nationwide survey of EL in MPharm programmes in the UK demonstrated that the majority of Schools have increased the variety of placement sites as well as placement hours since last surveyed in 2003;[15] with placement hours increasing year on year as recommended by the GPhC. There is, however, a lack of EL staff, as well as gaps in the quality assurance of tutors and placement sites.

The study had a few limitations. No demographic data was collected, which did not allow for inferential statistical analysis to be undertaken. There were also only 15 complete responses, thus mainly raw data was presented. As the survey was anonymous, it did not allow for individual follow-up to get more in-depth feedback. There is a need for more qualitative interviews involving key stakeholder such as tutors and students to determine their needs with regard to the experiential learning programme. This is, however, the first such nationwide programme conducted in the UK, with a good response rate.

Structure and administrative aspects

Our results revealed that total placement hours over the four years ranged from 54 to 496 hours. Different from other countries which have mandated hours for EL such as the US (300 hours),[11] Canada (640 hours),[18] and South Africa (400 hours);[19] the GPhC has no requirement on hours, or how the hours should be divided between the different practice settings. Hall et al noted that most EL placements are of short duration, and students are rotated at different placement sites, each of which require an orientation period. This does not allow students to fully immerse themselves into practice, resulting in the placement being more of an 'observership'.[20] Talley noted that shorter placements could be superficial instead of actually providing any effective training for students.[21] Tutors have also lamented difficulties in assessing students as the placements were too short.[22]

There may be a need to regulate or establish required placement hours, with stipulations on how these should be divided between the community and hospital. In Australia, it was specified in 2005 that a minimum of 250 hours of EL was warranted.[23] However, in 2017 this was removed given the lack of evidence supporting mandated placement hours, with the Australian Pharmacy Council calling for an emphasis on the quality of the EL experience instead.[24] There is, therefore, a need to strike a balance between the appropriate length and duration of placement hours with the quality of the experience between all sites, to ensure students get a balanced experience, and are trained to work in all settings.

From our study it was found that the additional responsibilities of EL coordinators were mainly in teaching, mentoring students, and serving on committees; and they reportedly spent less than 30% of their time on EL-related matters. Challenges with staffing have been

highlighted, in tandem with the increase in student numbers and placement sites.[13,25] This parallels our findings where 'workload' and 'obtaining adequate administrative support' were ranked by respondents as among the top five challenges faced. It has been suggested that universities hire professional, clerical, and administrative staff who are not pharmacists to run the EL programme, to keep costs low.[13] In the US, the American Pharmacists Association also recommended that Schools of Pharmacy allocate financial and human resources to the EL programme, in proportion with its number of credit hours in the curriculum.[14,25]

Tutors and placement sites

Tutors shoulder a great responsibility in training future pharmacists so they can integrate effectively into the practice setting. Tutors, however, are not educators,[26] and may lack sufficient knowledge and skills on how to teach students to apply what they have learned in the clinical environment.[27] Tutors have also admitted that they lacked knowledge on education techniques,[22] evidence-based medicine,[28] how to do critical appraisals,[28] and how to provide feedback to students.[10,29] In a qualitative study involving 37 Australian tutors, participants commented that they found student assessment the most challenging, and felt unqualified to properly assess students, requesting assistance on how to do it.[22]

Feedback to students has been highlighted as one of the core responsibilities of an EL tutor, with students commenting that it enabled them to develop and improve their skills.[27,30] Equally important was the ability to question students skilfully to trigger a deeper level of reflection about the placement.[27] From our study, even though close to 80% indicated that one of the duties of the tutor was to provide feedback to students, and approximately 40% indicated their responsibility was to assess students, less attention was

paid to training topics which focus on training tutors how to provide feedback, guide and motivate students, and assess students. In a study by Assemi et al, approximately 60% of tutors had a preference for topics such as 'questioning students effectively' and teaching/tutoring strategies', to be included in tutor-development programmes.[31] Most tutors do not receive any formal training on how to tutor students[10] and there was a call for more training programmes or modules for tutors,[29,32] as supported by a survey involving close to 70 hospital tutors where less than 50% believed that they were adequately trained to tutor.[33]

In our study, slightly more than 50% of respondents indicated that tutors received training annually. In 2015, the GPhC put forward a series of questions to obtain the views of stakeholders such as patients, pharmacists, academics, the public, on how the education and training of the pharmacy team should develop to meet the demands of the changing healthcare system. One of the barriers underlined by respondents was the lack of quality assurance of tutors,[34] which was also ranked as the third most important challenge related to EL by our respondents. Similarly, several studies have reported that tutor training was challenging.[13,25,35] It is, however, imperative that tutors are provided with sufficient training and support to ensure the quality of the tutoring delivered to students, and enable them to tutor students effectively.[26,36]

Countries such as the US,[21,37-40] Qatar,[36] and Australia[26] have established tutor-training programmes. It has been postulated that effective training programmes not only increase tutors' efficiency and confidence in assessing students and nurturing their skills, but also tutor retention.[31,41] Tutor-development programmes, however, should be designed and individualised based not only on the structure and content of the EL programme, but more importantly the preference and collective needs of the tutors.[31,41] With regard to topics,[31]

there should be an attempt to elicit the method of training preferred by tutors, as while some prefer face to face training sessions, online or telephone sessions might be preferable particularly to those who are too busy or far away to attend these sessions.[22,31,32] Some schools rely solely on written materials such as handbooks/manuals to provide training,[13] similar to that adopted by the majority of our respondents. There is, however, scepticism as to the effectiveness of handbooks/manuals in teaching tutors how to provide feedback.[10]

Our study revealed that the variety of placement sites have increased significantly, especially in the community setting,[15] and on the whole placements are in accordance with the GPhC requirement of building year on year. Obtaining/retaining hospital placements was, however, ranked by our respondents as the most challenging factor related to EL. Hospitals are reluctant to take on students mainly due to limitations in logistics, shortage of pharmacists, difficulty balancing between professional duties and teaching students, and the challenge of training large student numbers.[22,42] Obtaining/retaining community placements was ranked as the fifth most important challenge, and indeed, this has been highlighted by several universities in various countries.[10,14,25,32,35]

While schools face increasing difficulty in finding placement sites at hospitals and community pharmacies due to the increase in demand, the GPhC has not stipulated that placements are limited to these two settings.[3] Governments and stakeholders have recommended that pharmacists should be used to relieve pressure in critical areas of the healthcare system such as emergency departments and doctors' surgeries. There was also a call for increased focus on the ageing population, with care provided either in their own homes or in care homes. It was then highlighted that to enable future pharmacists to deliver these services on a large scale, they should be trained differently to prepare them for this. As such, there is a need to have variations in placement sites, instead of solely focusing on

traditional settings.[43] Our findings illustrate how some schools already utilise non-traditional healthcare settings as placements sites such as charities, hospices, and community health fairs. This has been adopted in the US where universities rely on immunization services, and service learning to deliver EL.[13,44]

Allowing students to select their own placement sites not only increases their engagement with the site, but also adds to the 'pool of sites.'[14] There has also been support for students receiving EL credit for paid internships or pharmacy employment as this might help overcome the challenge in obtaining placement sites. An argument in favour of this is the fact that pharmacists will be more keen on training future long-term employees as opposed to short-term students on rotation.[14]

From our findings, we can surmise that placement QA visits were infrequent and not standardised. The lack of quality assurance of placement sites has been noted,[21] and has been highlighted as one of the barriers to the education of future pharmacists.[34] In the discussion paper by the GPhC, the Pharmacy Schools Council also noted that there were issues of quality related to placement sites, especially community pharmacies.[34] There are also concerns that in some placements, students are used as 'cheap labour, and left to do repetitive tasks'.[27] Regular placement visits are, therefore, important and the onus is on the EL administration team to ensure that placement sites are safe for students, as well as able to deliver quality practice experiences.[45]

Conclusion

Our study highlights the challenges currently faced by universities offering MPharm programmes in the UK such as in obtaining placement sites, and the gaps in the EL programme such as tutor training and placement QA visits. There is a need for more standardisation to ensure students are sufficiently prepared to enter the workforce. Our findings allow Schools to benchmark with one another, as well as get ideas on potential EL sites. Information here can also be used to highlight to the GPhC the resources needed by universities to deliver the programmes effectively, and meet the standards set out by the GPhC.

References

1. CM7013. Trust, Assurance and Safety –The Regulation of Health Professionals in the 21st Century In: Health Do, ed. London2007.
2. Sosabowski MH, Gard PR. Pharmacy Education in the United Kingdom. *Am J Pharm Educ.* 2008;72(6):130.
3. Future pharmacists: Standards for the initial education and training of pharmacists. General Pharmaceutical Council; 2011. https://www.pharmacyregulation.org/sites/default/files/document/gphc_future_pharmacists_may_2011.pdf. Accessed 3rd April 2018.
4. Felicia P. *Handbook of Research on Improving Learning and Motivation through Educational Games: Multidisciplinary Approaches* Pennsylvania, US: IGI Global; 2011.

5. Agness CF, Huynh D, Brandt N. An introductory pharmacy practice experience based on a medication therapy management service model. *Am J Pharm Educ.* 2011;75(5):82.

6. Hendry G, Winn P, Wiggins S, Turner CJ. Qualitative Evaluation of a Practice-based Experience Pilot Program for Master of Pharmacy Students in Scotland. *Am J Pharm Educ.* 2016;80(10):165.

7. Naro P, Beall J, Wensel T, Click E, McCullough B, Heard A. Impact of a Community Pharmacy Based Health, Wellness and Prevention Introductory Pharmacy Practice Experience. *2017.* 2017;17.

8. Winn P, Turner CJ. Description and Evaluation of an MPharm Practice-based Experience Pilot Program. *Am J Pharm Educ.* 2016;80(9):151.

9. Mantzourani E HL. Working outside the dispensary: role-emerging placements enable pharmacy students in all years to work with members of the public and learn about their needs. . *Pharm J* 2015;295:7882.

10. Fejzic J, Henderson A, Smith NA, Mey A. Community pharmacy experiential placement: Comparison of preceptor and student perspectives in an Australian postgraduate pharmacy programme. *Pharmacy Education.* 2013;13(1):15-21.

11. Accreditation Council for Pharmacy Education. Accreditation standards and guidelines for the professional program in pharmacy leading to the doctor of pharmacy degree. (Standards 2016). Vol Released January 25, 2015; Released February 2, 2015. Chicago, Illinois2015.

12. Feret B, Orr K, Bratberg J, MacDonnell C. Evaluation of immunization training in the curriculum of first- and third-year pharmacy students. *Currents in Pharmacy Teaching and Learning.* 2015;7(4):541-545.

13. Devine PS, Darbishire PL. National trends in IPPE programs at US schools of pharmacy from 2008-2013. *Am J Pharm Educ.* 2015;79(3):39.

14. Darbishire PL, Devine T, Holowatyj MR, Schmelz AN. National Survey of Introductory Pharmacy Practice Experience Programs. *Scholarship and Professional Work - COPHS.* 2008;187.

15. Wilson K, Langley C, Jesson J, Hatfield K. Mapping teaching, learning and assessment in the MPharm in UK schools of pharmacy. . *Pharm J.* 2006;277:369-372.

16. General Pharmaceutical Council. Accredited MPharm degrees. 2018; https://www.pharmacyregulation.org/education/pharmacist/accredited-mpharm-degrees. Accessed 8/2/2018.

17. Jarkas AM, Bitar CG. Factors Affecting Construction Labor Productivity in Kuwait. *Journal of Construction Engineering and Management.* 2012;138(7):811-820.

18. The Canadian Council for Accreditation of Pharmacy Programs. International Accreditation Standards and Guidelines for First Professional Degree in pharmacy Programs. Leslie Dan Faculty of Pharmacy, University of Toronto2017.

19. McCartney J, Boschmans S-A. South African pharmacy student perspectives of a hospital-based experiential learning programme. *Pharmacy Education; Vol 18 (2018).* 2018.

20. Hall K, Musing E, Miller DA, Tisdale JE. Experiential Training for Pharmacy Students: Time for a New Approach. *The Canadian Journal of Hospital Pharmacy.* 2012;65(4):285-293.

21. Talley CR. Experiential rotations for pharmacy students. *Am J Health Syst Pharm.* 2006;63(11):1029.

22. Chaar BB, Brien JA, Hanrahan J, McLachlan A, Penm J, Pont L. Experimental education in Australian pharmacy: Preceptors' perspectives. *Pharmacy Education.* 2011;11(1):166-171.

23. New Zealand and Australian Pharmacy Schools Accreditation Committee. Accreditation of pharmacy degree courses in Australia and New Zealand. . Canberra: Australian Pharmacy Council; 2005.

24. Australian Pharmacy Council. Independent Review of Accreditation Systems within the National Registration and Accreditation Scheme for Health Professions Australian Pharmacy Council; 2017.

25. Danielson J, Craddick K, Eccles D, Kwasnik A, O'Sullivan TA. A qualitative analysis of common concerns about challenges facing pharmacy experiential education programs. *Am J Pharm Educ.* 2015;79(1):06.

26. Marriott J, Taylor S, Simpson M, et al. Australian national strategy for pharmacy preceptor education and support. *Aust J Rural Health.* 2005;13(2):83-90.

27. Stupans IO, SM. Planning and scaffolding for learning in experiential placements in Australian pharmacy schools. *Asia-Pacific journal of cooperative education.* 2009;10(1):29-37.

28. Paravattil B, El Sakrmy N, Shaar S. Assessing the evidence based medicine educational needs of community pharmacy preceptors within an experiential program in Qatar. *Currents in Pharmacy Teaching and Learning.* 2018;10(1):47-53.

29. Assemi MP, Corelli RLP, Ambrose PJP. Development Needs of Volunteer Pharmacy Practice Preceptors. *Am J Pharm Educ.* 2011;75(1):1-10.

30. Littlefield LC, Haines ST, Harralson AF, et al. Academic Pharmacy's Role in Advancing Practice and Assuring Quality in Experiential Education: Report of the 2003–2004 Professional Affairs Committee. *Am J Pharm Educ.* 2004;68(3):S8.

31. Assemi M, Corelli RL, Ambrose PJ. Development Needs of Volunteer Pharmacy Practice Preceptors. *Am J Pharm Educ.* 2011;75(1):10.

32. Wuller WR, Luer MS. A sequence of introductory pharmacy practice experiences to address the new standards for experiential learning. *Am J Pharm Educ.* 2008;72(4):73.

33. Gibson M, Sullivan D, Tubbs C, Mirtallo J, K K. Assessment of Barriers to Providing Introductory Pharmacy Practice Experiences (IPPEs) in the Hospital Setting. *Inov Pharm.* 2016;7(2).

34. General Pharmaceutical Council. Tomorrow's pharmacy team: responses to the discussion paper. General Pharmaceutical Council; 2015.

35. Kim D, DiPaula BA. A survey of pharmacy experiential learning in substance dependence. *Currents in Pharmacy Teaching and Learning.* 2014;6(1):58-68.

36. Paravattil B. Preceptors' Self-Assessment of Their Ability to Perform the Learning Objectives of an Experiential Program. *Am J Pharm Educ.* 2012;76(9):169.

37. Boyle CJ, Morgan JA, Layson-Wolf C, Rodriguez de Bittner M. Developing and implementing an Academy of Preceptors. *Am J Pharm Educ.* 2009;73(2):34.

38. Cox CD, Mulherin K, Walter S. National preceptor development program (PDP) prototype. The third of a 3-part series. *Currents in Pharmacy Teaching and Learning.* 2017.

39. Cerulli J, Briceland LL. A streamlined training program for community pharmacy advanced practice preceptors to enable optimal experiential learning opportunities. *Am J Pharm Educ.* 2004;68(1):1-8.

40. McDuffie CH, Duke LJ, Stevenson TL, et al. Consortium-based Approach to an Online Preceptor Development Program. *Am J Pharm Educ.* 2011;75(7):135.

41. Boyce EG, Burkiewicz JS, Haase MR, et al. ACCP white paper: Essential components of a faculty development program for pharmacy practice faculty. *Pharmacotherapy.* 2009;29(1):127.

42. Kassam R, Kwong M, Collins JB. A demonstration study comparing "role-emergent" versus "role-established" pharmacy clinical placement experiences in long-term care facilities. *BMC Med Educ.* 2013;13:104.

43. General Pharmaceutical Council. Tomorrow's pharmacy team: Future standards for the initial education and training of pharmacists, pharmacy technicians and pharmacy support staff. General Pharmaceutical Council; 2015.

44. Barner JC. First-Year Pharmacy Students' Perceptions of Their Service-Learning Experience. *Am J Pharm Educ.* 2000;64(3):266-271.

45. Skrabal MZ, Jones RM, Walters RW, et al. National Survey of Volunteer Pharmacy Preceptors: effects of region, practice setting, and population density on responses. *J Pharm Pract.* 2010;23(3):265-272.

Table 1 Administrative aspects of the experiential learning programme

Statements	N (%)
Other responsibilities of the EL coordinator***** (n=18)	
• Teaching in the classroom	18 (100)
• Mentoring students	17 (94.4)
• Serving on departmental committees	14 (77.8)
• Working on scholarship	12 (66.7)
• EL-related administrative duties	12 (66.7)
• Conducting research	11 (61.1)
• Serving on university committees	10 (55.6)
• Other (open-ended): module leadership	2 (11.1)
Staff involved in EL programme***** (n=16)	
• EL administrator	11 (68.8)
• Part-time staff who only guide students during placements[#]	8 (50)
• Full-time teacher practitioners who teach, and guide students during placements	7 (43.8)
Approximate time in Whole Time Equivalents(WTEs)/ Full Time Equivalents (FTEs) spent by the following staff on coordinating or assisting with the management of the EL programme (n=15)	
• Academic/teaching fellow (Mean ± SD)	1.02 ± 1.38
• Administrative staff (Mean ± SD)	0.44 ± 0.40
• EL coordinator (Mean ± SD)	0.29 ± 0.31

*****Respondents were allowed to select more than one option, therefore totals might exceed 100%

[#]This includes part-time teacher practitioners

439 **Table 2** Experiential learning structure

Statements	N (%)
EL site selection (n=16)	
• School-organised: students are assigned EL sites	11 (68.8)
• Combination: student may be assigned or may find their own EL sites	1 (6.25)
• Semi-structured: students choose EL sites from a list provided by the school	1 (6.25)
• Others (open-ended): apart from one placement where students choose a charity from a preapproved list or make a case for their own choice of charity; could be any of the above depending on the activity; in Stage 1 (First Year) MPharm students are assigned, following this there is a combination of assigned and finding their own EL places	3 (18.8)
Quality of student-selected EL sites compared to the quality of school-organised EL sites (n=17)	
• School-organised EL sites are better	4 (40)
• Not sure	4 (40)
• They are generally equal in quality	2 (20)
Students evaluate the following at the end of their placements***** (n=15)	
• EL site	14 (93.3)
• Tutors	12 (80)
• EL coordination	9 (60)
• The method(s) by which they are assessed	5 (33.3)
• The quality and/or nature of the feedback given to them	4 (26.7)
• Others (open-ended): evaluation not guided/structured; their personal and professional development; EL experience	4 (26.7)
Tutors evaluate the following at the end of student placements***** (n=15)	
• Student performance	13 (86.7)
• EL coordination	5 (33.3)
• No evaluation done	1 (6.67)
• Others (open-ended): general feedback requested only. Some placements have more structured student performance evaluation	1 (6.67)
EL pre-experience requirements***** (n=15)	
• Criminal background check (CRB or PVG[a])	15 (100)
• Health and safety training	10 (66.7)
• Immunisations	10 (66.7)
• Indemnity insurance	6 (40)
• Others (open-ended): confidentiality agreement, all relevant SOPs[b] according to requirements of EL site, information governance, conflict resolution, sage and thyme, unconscious bias, equality and diversity, education and development training (and assessment), professionalism training (and assessment), appropriate behaviour	7 (46.7)
Methods to assess what students have learnt during their EL* (n=15)	
• Reflective diaries	13 (86.7)
• Student handbook	7 (46.7)
• OSCE	6 (40)
• Examinations	5 (33.3)
• Preceptor feedback	2 (13.3)
• Interviews	1 (6.67)
	10 (66.7)

• Others (open-ended): presentations, CPD[c] entries, patient mini health checks, interactive feedback sessions, care plans, in-session tests of performance	
Methods in place to ensure that experiential hours are completed as reported by students* (n=15)	
• Tutors are required to submit documentation forms	7 (46.7)
• Documents must be submitted with tutors' original, uncopied signatures	7 (46.7)
• Tutors are contacted following submission of student forms	2 (13.3)
• None	2 (13.3)
• Others (open-ended): emails/feedback from placement providers; handbook and placement coordinators and students report non-attendance or absence; registers of attendance; random quality assurance visits - attendance and absence processes are checked	4 (26.7)
Frequency of individual placement site visits (n=15)	
• Once every 2 years	3 (20)
• Never	2 (13.3)
• More than once per year	3 (20)
• Once per year	1 (6.67)
• Others (open-ended): a sample per placement; dependant on placement site; no routine visits to all community sites. University tutors present at GP[d] placements and some hospital placements; on rotation with quality office	6 (40)
Staff involved in conducting placement site visits* (n=15)	
• EL academics/teaching fellows	9 (60)
• EL coordinator	8 (53.3)
• EL administrative staff	3 (20)
• Other (open-ended):pharmacy quality officers	2 (13.3)

[a]CRB: Criminal Records Bureau; PVG: Protecting Vulnerable Groups
[b]SOP: Standard operating procedures
[c]CPD: Continuous professional development
[d]GP: General practitioner
*Respondents were allowed to select more than one option, therefore totals might exceed 100%

Table 3 Number of hours in each experiential learning site by year (n=15)

EL site	Year 1, median (interquartile range)	Year 2, median (interquartile range)	Year 3, median (interquartile range)	Year 4, median (interquartile range)
a) Community	8 (3-15)^	16 (6-25)^	9 (0-32)^	0 (0-20)
b) Hospital	3 (2-8)	8 (3-11)	8 (6-30)	15 (0-25)
c) Primary care e.g. GP$^{\phi}$ surgeries, nurse home visits	0 (0-0)	0 (0-0)	0 (0-2)	2 (0-15)
d) Industry	0 (0-0)	2$^{\#}$	8 (optional)$^{\#}$, 7$^{\#}$	0 (0-0)
e) Outpatient clinics	0 (0-0)	0 (0-0)	5 (optional)$^{\#}$	0 (0-0)
f) Prisons	0 (0-0)	0 (0-0)	5 (optional)$^{\#}$	0 (0-0)
g) Hospices	0 (0-0)	0 (0-0)	3$^{\#}$	3$^{\#}$, 8$^{\#}$
h) Nursing homes	0 (0-0)	0 (0-0)	5 (optional)$^{\#}$	3$^{\#}$
i) Non-pharmacy e.g. charities, befriending services	30$^{\#}$	10$^{\#}$, 36$^{\#}$	8$^{\#}$, 10$^{\#}$, 30$^{\#}$	0 (0-0)
j) Community health fairs	0 (0-0)	0 (0-0)	0 (0-0)	8$^{\#}$
k) International placements	0 (0-0)	60 (optional)$^{\#}$	60 (optional)$^{\#}$	0 (0-0)

$^{\phi}$GP: General practitioner

^Approximate amount as one respondent provided approximate data

$^{\#}$Value is hours as reported by one respondent each, and does not represent the median.

476 **Table 4** Ranking of challenges faced with EL

477

Challenges	RII value	Ranking
Obtaining/retaining hospital placements	81.82	1
Financial support	80	2
Quality assurance of tutors	60	3
Workload	56	4
Obtaining adequate administrative support	53.33	5
Obtaining/retaining community placements	53.33	5
Timetabling	53.33	5
Obtaining/retaining other placement sites	52	6
Developing and providing tutor training	48	7
Increasing class sizes	45	8
Conducting placement site visits	43.33	9
Assessing programme content	40	10
Assessment of students	40	10
Changing environment	40	10
Managing documentation of individual placement site requirements	40	10
Other: Student lack of engagement with placements, due to perceived lack of importance as no credit associated	20	11

478

479

480

481

482

483

484

485

486

487

488

489

490

491

492

493

494

495

496 **Table 5** Tutors

Statements	N(%)
Training or support methods for tutors***** (n=14)	
• Printed materials e.g. EL manual/handbook	12 (85.7)
• Face to face	9 (64.3)
• Online formats	4 (28.6)
• On-campus programme	3 (21.4)
• Teleconference	2 (14.3)
• None	2 (14.3)
• Other (open-ended): support from experienced academic	1 (7.14)
How often do tutors complete training per academic year? (Open-ended) (n=13)	
• Once	7 (53.8)
• Twice	1 (7.69)
• All new tutors are asked to complete (cannot be forced as no money to pay them hence no service level agreement. Then only if learning outcomes change).	1 (7.69)
• Depending on tutors and nature of placement. Information sent to all tutors annually prior to placement	1 (7.69)
• This depends on which training. Handbooks sent out each year and coordinated by sector coordinator	1 (7.69)
Content(s)/topic(s) covered in tutor-training programme(s)***** (n=14)	
• Placement structure	12 (85.7)
• Placement requirements	11 (78.6)
• Tutor responsibilities – writing reports, providing feedback etc.	7 (50)
• How to communicate with students e.g. provide feedback	5 (35.7)
• How to guide students in their reflective diaries	4 (28.6)
• How to question students effectively	4 (28.6)
• How to tutor students	3 (21.4)
• How to assess students	3 (21.4)
• How to engage and motivate students	2 (14.3)
• Evidence-based medicine	1 (7.14)
• Education techniques	1 (7.14)
• Other (open-ended): PG cert/PGDip Ed Program[a]	1 (7.14)
Duties/responsibilities of tutors***** (n=14)	
• Providing feedback on the students	11 (78.6)
• Providing feedback on the placement e.g. structure, problems	11 (78.6)
• Assessing students according to a formal assessment form/criteria	6 (42.9)
• Guiding students in their reflective diaries	5 (35.7)
• Others (open-ended): depends whether tutor refers to academic practitioners or placement supervisors; design of experiences and assessments	2 (14.3)
Support/resources/recognition available for tutors?***** (n=14)	
• Handbook	12 (85.7)
• Support for handling students who are not meeting expectations	10 (71.4)
• University staff in the experiential programme available for personal consultation for pharmacists wishing to develop their practice site into a learning environment.	7 (46.7)
• Acknowledgement in the form of certificates of appreciation	7 (46.7)

• Access to library	4 (28.6)
• Dedicated website for EL	1 (7.14)
• Acknowledgement in the form of awards for outstanding tutors	1 (7.14)

[a]PG cert Ed: Postgraduate certification in education program; PG Dip Ed: Postgraduate diploma in education program

*Respondents were allowed to select more than one option, therefore totals might exceed 100%