




RESEARCH ARTICLE

# Direct evaluation of skills, knowledge and behaviours of pharmacists in the Republic of Ireland

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## Abstract

The approach to reviewing Continuing Professional Development (CPD) for pharmacists in Ireland has undergone significant change over the past decade. All registered pharmacists must maintain an electronic portfolio of their CPD, which is reviewed periodically. Patient-facing pharmacists may also be randomly selected to participate in Practice Review. This consists of a clinical knowledge multiple choice question (MCQ) examination (Clinical Knowledge Review (CKR)) and interactions with simulated patients centred on pharmaceutical care cases ((Standardised Pharmacy Interactions (SPIs)). The processes underpinning Practice Review are described and a summary of the performance outcomes of pharmacists since the inception of the review process in 2018 are outlined. To date 310 patient-facing pharmacists have participated in Practice Review with the vast majority demonstrating competence. The significance of these results in the context of assessing competence is considered and the merits and limitations of Practice Review are discussed.

## Introduction

Professional regulatory bodies commonly require healthcare professionals to demonstrate or declare that they are undertaking Continuing Professional Development (CPD) appropriate to their role upon annual re-registration (Austin, 2013). This is intended to provide a societal assurance as to the competence of healthcare professionals providing care within the health system. In recent years, pharmacy regulators in many jurisdictions have assumed greater oversight of CPD undertaken by registrants. In many cases, regulators have redefined the way in which CPD is conducted and recorded, as well as formalising and overseeing processes for reviewing CPD as a means of quality assuring registrants (Schafheutle *et al.*, 2013).

The Pharmaceutical Society of Ireland (PSI) is the regulator for pharmacists in the Republic of Ireland and is responsible for the registration of pharmacists, pharmaceutical assistants and retail pharmacy businesses. The Pharmacy Act 2007 defined the roles and responsibilities of the PSI in relation to the

profession; these are wide-ranging and include, amongst other matters, establishing standards for the training and education of pharmacists. As part of this function, the PSI commissioned a review of CPD models used by professional bodies internationally to identify a system that would appropriately support the development and maintenance of the competence of registered pharmacists while also being a feasible model to implement in the Irish context (PSI, 2010). Several different approaches are used internationally, including a credit-based system requiring the pharmacist to undertake a specific number of courses or hours of learning. Portfolio systems are also commonly utilised requiring the pharmacist to log their specific learning in reflective or descriptive accounts (PSI, 2010; Micallef & Kayyali, 2019;). The Irish model for CPD proposes a system which is “*systematic, self-directed, needs-based and outcomes-focussed, based on a process of continual learning and development with application in his or her professional practice as a pharmacist*” (PSI, 2015). There is considerable flexibility in the approach; unlike other countries or professions, pharmacists are not required to undertake a specified

number of hours or credits of training or learning activities (Micallef & Kayyali, 2019). The CPD Rules 2015 (SI 553) established the building blocks of the new CPD system in legislation, including the establishment of the Irish Institute of Pharmacy (IIOp). The IIOp is independent of the regulator, with separate staff, offices and with a distinct remit of CPD oversight. Quality assurance of CPD is managed in three ways in the Irish model: 1) Quality assurance of continuing education programmes, which is achieved through accreditation processes; 2) Quality assurance of practitioner engagement in CPD, which is achieved through periodic reviews of ePortfolios against a set of defined standards; and 3) Quality assurance of pharmacists in patient-facing roles which are achieved through a process of Practice Review (PSI, 2015). Pharmacists must reflect against the Core Competency Framework (CCF) to inform their learning and training (PSI, 2013). The CCF developed by the PSI in collaboration with the International Pharmaceutical Federation (FIP) Pharmacy Education Taskforce (PET) details the skills, knowledge and behaviours that should be demonstrated by all registered pharmacists regardless of their area of practice (PSI, 2013).

Practice Review is based on a model that was implemented by the Ontario College of Pharmacists at the time of establishment of the Irish system (PSI, 2010). Pharmacists working in patient-facing roles, such as in hospital and community settings, are randomly selected for participation in Practice Review. There are currently over 7000 pharmacists registered with the PSI, and over 5000 of these are registered as community and hospital pharmacists (PSI, 2023). Practice Review involves the direct evaluation ... *"of the knowledge, skills and judgement of the pharmacist, against a standard established in consultation with peer pharmacists practising in patient-facing roles, having regard to the CCF, with particular reference to those competencies dealing with patient care, including clinical knowledge, the ability to gather and interpret appropriately information from and about patients, patient management and education and communication (including counselling) skills"* (IIOp, 2022). It is important to highlight that Practice Review is considered to be a quality assurance approach which monitors professional competence as distinct from reviewing performance in practice. Assessment or review of competence or performance in a simulated or practice setting are common features of undergraduate or postgraduate assessment of pharmacists or as part of recognising advanced knowledge or skills. However, this approach is less common as a mechanism to quality assure practice as part of continued registration. It is now five years since Practice Review has been operational in Ireland.

Therefore, it is timely to provide an overview of the process and to describe the performance outcomes by pharmacists since the inception of the review process. The significance of these results in the context of assessing competence is discussed and the merits and limitations of Practice Review are considered.

## Methods

The purpose of Practice Review is to ascertain if pharmacists practising in patient-facing roles demonstrate an appropriate level of competence in the following competency areas (as defined by the PSI CPD Rules, S.I. 553 of 2015) (PSI, 2015): 1) Clinical knowledge; 2) The ability to gather and interpret information from and about patients (gathering information); 3) Patient management and education; and 4) Communication (including counselling) skills.

A systematic approach is taken to the development, standardisation and operationalisation of Practice Review, with each stage involving input from practising patient-facing pharmacists. This is vital for assuring the validity and reliability of the process, an essential requirement given the high-stakes nature of Practice Review, which ultimately provides assurances as to the competence of the pharmacist.

### *Peer led approach*

The CPD Rules 2015 states that the standards applied in Practice Review shall be *"established in consultation with peer pharmacists practising in patient-facing roles"* (PSI, 2015). In line with legislation, peer pharmacists practising in patient-facing roles are involved throughout the Practice Review process in a number of roles, including blueprint development, SPI case writing and review, Standardised Pharmacy Interactions (SPIs) and (Clinical Knowledge Review) CKR quality assurance, CKR writing and review, Practice Reviewers, standard setting for the CKR and as members of the Practice Review Board.

### *Blueprint development*

The scope of Practice Review was established during a blueprint development process in consultation with peer pharmacists practising in patient-facing roles under the direction of a psychometrician. The process involved completion of a questionnaire in which pharmacists were asked to consider what should be included in the review from two perspectives: 1) Competencies in the CCF; and 2) Clinical topics from the British National Formulary (BNF).

The blueprint exercise determined the clinical topics that were within scope for the SPIs and CKR.

### **Pharmacist selection process**

All pharmacists practising in patient-facing roles are eligible for selection for Practice Review as per CPD Rules 2015. The PSI selects pharmacists at random from the register of pharmacists. Following this selection process, the PSI communicates with the pharmacist advising them of their inclusion in Practice Review on a defined date. The PSI selection process includes managing requests from pharmacists who wish to be excluded on the basis of extenuating circumstances.

### **Practice review components: SPIs and CKR**

Practice Review is conducted over two days twice yearly (April and October) in the Royal College of Surgeons in Ireland (RCSI), located in Dublin. One group of pharmacists undertake Practice Review on Saturday and a new group on Sunday. The IOP are responsible for overseeing the assessment and is supported by the RCSI Student, Academic & Regulatory Affairs (SARA) team whose function is to oversee the logistics of assessment in RCSI. Pharmacists are divided into two groups and undertake SPIs or CKRs during the morning or afternoon period. The groups are kept separate throughout the day and do not have access to their phones to ensure the integrity of the assessment.

Both SPIs and the CKR undergo a systematic process of development and review prior to Practice Review. Post Practice Review, there are processes in place to quality assure and review outcomes. SPIs are 8-minute interactions with a simulated patient and are developed by patient-facing pharmacists. There are seven scenarios in addition to an initial scenario that acts as a trial-run. The SPI cases do not relate to legal practice, dispensing skills, labelling of medicines, prescription types or drug schemes, rather they require the pharmacist to act on a medicine that has already been dispensed or respond to a query presented by a "healthcare professional" or "patient" under their care. SPIs are written by a group of patient-facing pharmacists during a 2-day workshop. These pharmacists are recruited by the IOP through an Expression-of-Interest (Eoi) process. A separate 2-day workshop is then convened with a different group of pharmacists to review the SPIs that have been developed. Professional actors play the part of the simulated patient and have been briefed extensively in advance of Practice Review. A pen and paper are provided as well as other resources that might be required such as prescriptions, Summary of Product Characteristics (SPCs), Patient Information Leaflets (PILs) or medicinal products with a label applied.

The CKR, completed on the same day as the SPIs, is a computer-based assessment whereby the pharmacist is presented with 18 clinical scenarios on which three MCQs are posed. Pharmacists have resources provided: a computer station, pen and paper and access to online resources identified in PSI Guidelines on the Equipment Requirements of a Retail Pharmacy Business (e.g. BNF, drug interaction reference, SPCs, PILs, PSI guidance and a reference for medicinal products authorised in Ireland) (PSI, 2019). Similar to the SPIs, CKR MCQs are developed during a 2-day workshop and then reviewed in a separate 2-day workshop. A standardisation activity using a modified Angoff approach takes place after Practice Review, led by a psychometrician, again involving patient-facing pharmacists, to determine the performance that would be required of a competent pharmacist. Participants are required to evaluate each question from the CKR in turn and submit their estimate as to the percentage of "minimally competent candidates" that would get each item correct. After an initial round of estimations, participants are provided with individual feedback which anonymously compares their estimates to those of their fellow participants and also indicates how their estimates compare to the item performance in the CKR. In light of this feedback, participants are given the opportunity to modify their initial estimates. This process of estimation, feedback and evaluation continues until all participants are satisfied that they do not wish to make any further modifications. The final cut score is the mean of all participants' final estimates. CKR and SPI Quality Assurance Groups (QAG) meet prior to each Practice Review event to validate and approve each of the proposed cases to ensure that they are appropriate for inclusion in the Practice Review. The meeting must take place at least 8 weeks before the event.

The IOP supports pharmacists selected for Practice Review in a number of ways. All pharmacists, not just those called for Practice Review, can access a range of support resources via the IOP website. These resources are presented in a variety of formats – printable guides, interactive guides and video guides, and give information and guidance to help pharmacists navigate through Practice Review. These resources are essential to ensure that pharmacists are familiar with the approach to assessment, particularly since many of these individuals may have completed their undergraduate education prior to Objective Structured Clinical Examinations (OSCEs) becoming commonplace in clinical education. There is a sample CKR quiz, as well as examples of SPI scenarios available. Pharmacists selected for Practice Review are invited to attend one of the Practice Review information webinars where there is an opportunity to ask questions and gain a

greater insight into what to expect on the day of Practice Review.

The Practice Review Board takes place after a Practice Review event once all assessment analysis has been completed. The Board is composed of a Chairperson, IOP Practice Review Representative, RCSI Surgery and Postgraduate Faculty Board Representative, Peer Pharmacist (community), Peer Pharmacist (hospital) and a Peer Pharmacist (patient-facing role/hospital/community). The role of the Practice Review Board is to provide external oversight of the Practice Review process, to note and address any issues that pharmacist participants encountered during Practice Review, to review and approve the standards for Practice Review, to review and approve the final outcomes of Practice Review and to identify cases where referral of a pharmacist to the PSI is required (IOP, 2022).

There are four potential initial outcomes for Practice Review: 1) Competence demonstrated in all competencies; 2) Further review required for CKR competency; 3) Further review required for SPI related competencies; and 4) Non-participation.

Pharmacists may receive a combination of outcomes two and three above if further review is required for both CKR and SPI related competencies. Remediative pathways are in place to support those who have not demonstrated the required standard. If a pharmacist

has not demonstrated an appropriate level of competence following two subsequent Practice Review attempts within one year of notification of the initial outcome, they are assigned an outcome of competence not demonstrated and referred to the PSI.

## Results

Practice Review has taken place on five occasions up to October 2022 and involved 310 pharmacists. The outcomes for each Practice Review are presented in Table I. Practice Review was suspended between April 2020 and April 2022 due to the COVID-19 pandemic and the associated public health restrictions. The vast majority of pharmacists demonstrated competence in each Practice Review. There has been a small increase in non-participation during the last two periods relative to the first three periods. There were no major differences in outcomes between October 2019, the final Practice Review pre-COVID and October 2022, the first Practice Review post-COVID. Seven pharmacists were required to re-attempt one or more components Practice Review. To date, of the nine occasions when pharmacists were required to undertake a further attempt at a component, six re-attempts were required for the CKR, one re-attempt was required for only the SPI and two re-attempts were required for both the CKR and SPI.

**Table I: Performance of pharmacists in practice review 2018–2022**

Practice review	Competence demonstrated (%)	Further review required (%)	Non-participation (%)	Total
April 2018	63 (97 %)	1 (1.5%)	1 (1.5%)	65
October 2018	65 (94%)	3 (4.5%)	1 (1.5%)	69
April 2019	64 (94%)	3 (4.5%)	1 (1.5%)	68
October 2019	57 (95%)	1* (2 %)	2 (3%)	60
October 2022	57 (93%)	1 (2%)	3 (5%)	61

\* Competence not demonstrated after three attempts at CKR

## Discussion

The changes to CPD requirements for pharmacists in Ireland mirrored similar changes in many countries. Reform was required both to assure patients and other healthcare professionals of the maintenance of the skills, knowledge and behaviours expected of pharmacists and to keep pace with CPD changes in other jurisdictions. A multimethod approach to assessment for patient-facing pharmacists, in this case through ePortfolio Review and Practice Review, facilitates consideration of competence

through various lenses and mitigates against the deficiencies of any single method (Kennedy *et al.*, 2019). Furthermore, a multimethod approach facilitates review of a pharmacist's clinical knowledge as well as their interpersonal and communication skills, reflecting the multi-faceted demands of patient-facing professional practice. It is accepted that an appropriately structured assessment does succeed in identifying registrants who are unfit to remain in practice, thereby maintaining and improving the quality and safety of care that is provided by that professional group (Potter *et al.*, 2013). The vast

majority of pharmacists who participated in Practice Review in recent years have been determined to be competent. The strong performance of pharmacists thus far gives reassurance to both the professional regulator and the public that there is a high degree of competence within the patient-facing cohort of the professional register. However, given the overwhelmingly positive performance of pharmacists in Practice Review, it prompts the question as to whether a more refined and nuanced approach to the determination of competence or indeed determination of performance in practice, might be of greater educational and professional benefit to the majority of pharmacists, while also being reflective of an assessment at the apex of Miller's pyramid, assessment at the "Does" level of professional practice (Miller, 1990; Van Der Vleuten *et al.*, 2010).

Practice Review has a number of features that make it a valid and reliable assessment. The centralised organisation of Practice Review, coordinated by the IOP, helps to ensure that the assessment processes are tightly controlled and homogenous, a challenge for larger jurisdictions where responsibility is commonly devolved to regional centres (Schafheutle *et al.*, 2013). The simulated nature of the assessment affords certain advantages, the distractions of a busy workplace are removed and ensures that candidates are not disadvantaged by differences in environment. Simulated patients, who consistently and concisely portray the case for each pharmacist, further enhance the reliability and validity of the assessment (Campbell & Murray, 1996; Norcini & McKinley, 2007). Critics of assessment in stimulated environments have suggested that given the artificiality of the setting, it is not possible to determine the true performance capabilities of an individual removed from their place of practice (Dunkley, 2000). However, given the high-stakes nature of this assessment, it can be argued that having complete control of the environment is preferable in this instance. The involvement of peer pharmacists at every stage of the process provides assurances to the profession as to the authenticity and validity of the assessment. There is some degree of expense attached to this model of assessment, considering the planning, organisation and management of each of the elements of the day that involves actors, Practice Reviewers and individuals that oversee the assessment process (Shumway & Harden, 2003). There is also a potential personal cost to participants as they may need to pay for locum cover for their pharmacy as well as paying for travel and accommodation in certain cases. In addition, each Practice Review involves relatively small number of pharmacists, approximately 65 for each Practice Review event, which represents only a small proportion of the patient-facing register.

Material costs aside, the fundamental question is the professional and patient benefits associated with this system. It is undoubtedly reassuring those pharmacists who do not demonstrate competence are identified and suitably supported, yet the number of pharmacists that fall within this category is exceptionally small. However, given the diversity of practice areas and professional experiences of pharmacists, is it reasonable to expect a single approach to competence assessment to reflect the depth and breadth of knowledge and skills of the patient-facing register? Such an approach, removed from an individual's practice, may be unable to capture the tacit knowledge that is implicit in professional practice. Tacit knowledge cannot be uniformly determined through standardised assessments as it emerges from the pharmacists' specific professional context and experience, yet it is routinely combined with "explicit" knowledge and skills, such as those assessed through Practice Review, to effectively function in practice (Waterfield, 2010). Reviewing the performance of a pharmacist in their particular practice through direct observation or peer discussion might provide the nuance that is desired of practice-specific competence and also provide context-specific professional feedback to the pharmacist. This approach would also acknowledge that the very act of practising within a given context has meaning for the acquisition and demonstration of knowledge and skills, this may mean that a performance-based assessment strategy, which continues to reflect the CCF, may provide a more meaningful insight into the competence of the pharmacist. However, the practicalities of a practice-based performance assessment strategy are not insignificant, standardising and quality-assuring direct observation or peer discussion in a diverse range of practice settings potentially presents significant logistical challenges given the impact of external factors in the workplace and heterogeneity of practice settings as well as being a potentially expensive model to operationalise (Winkelbauer, 2020).

Alternatively, a more simplified approach to Practice Review could be considered, requiring pharmacists only to undertake an assessment similar to the CKR, which based on the outcomes described above, is strongly indicative of overall performance in Practice Review. Monitoring performance in CKR alone would identify pharmacists in further need of support. The resources that would be freed up from simplifying the current approach to Practice Review could then be diverted elsewhere to facilitate learning and development specific to pharmacists' professional needs. For example, further development of existing quality assurance tools, such as accredited educational programmes combined with further refinement of the ePortfolio system, could support the development and recognition of advanced

practice and specialism within the Irish pharmacy profession. At present, there is no formal approach to recognising and accrediting advanced practice or skill in Ireland, despite many pharmacists operating at this level within the health system. This approach could incorporate 360° performance evaluations derived from the spectrum of people within a pharmacist's direct work circle, including supervisors, peers and other colleagues. In some cases, it may also include a self-evaluation by the pharmacist, as well as feedback from external sources such as patients. Such feedback can again provide meaningful insight into a pharmacist's performance in practice as experienced by colleagues and patients alike. Reflective peer discussion could also be included and act as an effective tool to permit practice-specific reflections. Peer discussions, which can form part of a CPD portfolio, are commonly used as part of CPD for pharmacists and other groups of healthcare professionals internationally (Karas *et al.*, 2020). These tools would restore a level of autonomy to the pharmacist, reflect individual learning needs and the practice-specific context of the pharmacist.

Practice Review as a means of monitoring the competence of pharmacists has been replaced by practice-based assessment by the Ontario College of Pharmacists in the past three years (OCP, n.d.). This was introduced primarily due to the limited number of pharmacists that could be assessed at any one time through Practice Review and the expense associated with the process, similar limitations to the Irish model of Practice Review (Winkelbauer, 2020). Practice-based assessment involves direct observation and chart-simulated recall. Direct observation is based on pharmacists in their place of work as they engage with patients, while chart simulated recall involves the pharmacist having a structured discussion around their management of specific cases, rationalising their decisions in the context of the evidence base (OCP, n.d.). This approach mitigates against a number of the potential limitations of Practice Review, as described above, specifically relating to the authenticity and resource-intensive nature of the assessment process (Winkelbauer, 2020). In Ireland, the CPD system is currently under review by the PSI so it is possible that the Irish system will also be revised in the coming years.

A comprehensive appraisal of Practice Review has been presented, and the merits and limitations of this approach to assessing professional competence have been appraised. This appraisal will benefit those involved in continuing education across the healthcare domain in understanding this approach to reviewing competence of registrants. It is important to note that the results presented are based on relatively few pharmacists in the context of the patient-facing professional register in Ireland. This is due to the relatively small number of

pharmacists called for each Practice Review in addition to the pause that was required during the COVID pandemic. There is potential for further research on the performance of pharmacists taking into account specific factors such as practice area, specialty, years on the register etc. A larger dataset developed over a longer period would provide more meaningful insights into performance taking into account these factors. It would be helpful too to understand pharmacists' experiences and perceptions perhaps through qualitative research, to describe the viewpoints of those who have participated in the process.

## Conclusion

A periodic review of the competence of healthcare professionals, particularly those routinely interacting with patients, is a reasonable and realistic expectation. The frequency of review, the means by which review is conducted and the focus of review are common points of difference between professional groups both intra-nationally and internationally. A universally homogenous approach to reviewing competence of healthcare professionals is neither a practical aspiration nor a necessary one; differences are borne of the legal, social, political and cultural context in which the healthcare professional operates and are considered by the governing regulatory body to be fit for purpose. It is essential, however, that the system of review is suitably robust and rigorous to make an informed decision as to the professional competence of the individual, which may ultimately impact upon their right to practice, while also acknowledging the diversity of practice within the profession and supporting its development and specialisation.

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