

RESEARCH ARTICLE

# Defining evidence requirements for a Development Framework for Pharmacists (DFP) in community pharmacy practice

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## Abstract

**Background:** The Development Framework for Pharmacists (DFP) was implemented in a pharmacy chain to guide pharmacist development. Both pharmacists and their supervisors faced challenges in defining evidence and performance levels for Domain 1 (Expert professional practice) standards. This study explored these challenges in a community pharmacy setting. **Methods:** Three online focus group discussions (FGDs) involving a DFP workgroup member and representatives from community pharmacies and polyclinics were conducted. The FGDs were facilitated by guiding questions and evidences gathered from pharmacists who had attempted the DFP. The FGDs were recorded, transcribed, and coded thematically. **Results:** Participants viewed the DFP as relevant to community practice but suggested aligning DFP evidence examples with community pharmacists' responsibilities. Key themes from the FGDs included: (1) The need for clear definitions for descriptors, especially when identical evidence was used for different standards; (2) Professional education can be Domain 1 evidence when skills learnt are demonstrated in the workplace; (3) Potential inclusion of education and training activities in Domain 1; (4) The need for a criteria model to assess pharmacists' performance level in various roles and situations; (5) Clarification regarding the term "group of patients"; (6) Considering back-end work as Domain 1 evidence. **Conclusion:** Addressing the above themes could enhance DFP integration for community pharmacists.

## Introduction

A competent pharmacy workforce serves as the fundamental pillar for delivering high-quality healthcare services. The knowledge, skills, and expertise possessed by pharmacists play a critical role in ensuring the safe and effective use of medications, promoting optimal patient health outcomes, and safeguarding public health (International Pharmaceutical Federation (FIP), 2017). Advanced Practice Framework (APF) was introduced in 2016 by the Chief Pharmacist's Office, Ministry of Health, Singapore, to provide pharmacists with a blueprint for continuing professional development and career

progression (Ministry of Health, 2017). Four years later, the Development Framework for Pharmacists (DFP) was launched, whereby the first six domains of the competency standards in the APF were extended to include the foundation level. Domain 7 on professionalism was added for a seamless transition from Entry-to-Practice to advanced practice. DFP defines 28 competency standards across seven domains required for pharmacists to advance their practice systematically. These domains are Expert professional practice, Building working relationships, Leadership, Management, Education, training and development, Research and evaluation, as well as Professionalism. Each competency standard, except

those in Domain 7, is presented at four performance levels: Foundation, Intermediate, Advanced and Expert (Table I). Chief Pharmacist's Office DFP guidebook provides criteria and corresponding examples for each performance level across all competency standards. It serves as a valuable resource for pharmacists, enabling them to plan their professional development, explore opportunities within their current practice areas and present evidence that aligns with the criteria outlined in the competency standards (Chief Pharmacist's Office, 2020; Chief Pharmacist's Office, 2021). Within this framework, newly onboarded pharmacists will be assigned an education supervisor. The education supervisor's main role is to offer guidance on professional development and assess the evidence presented by pharmacists to ensure they meet the required criteria and attain the associated performance level.

In 2019 and 2021, a pharmacy chain in Singapore adopted APF and DFP within its organisation, with the aim to support the professional development of pharmacists and to align future in-house training programs with the national framework. The pharmacists commenced their APF/DFP journey with Domain 1 (Expert professional practice), which consists of four standards. The four standards are: Standard 1.1 (Demonstrates expert skills and knowledge); Standard 1.2 (Manages patient care responsibilities/delivery of professional activities); Standard 1.3 (Exhibits reasoning and judgement including analytical skills, judgmental skills, interpersonal skills and appraisal of option) and Standard 1.4 (Uses professional autonomy) (Table II). Nevertheless, feedback from the onboarded pharmacists indicates their uncertainty regarding what qualifies as evidence for Domain 1 (Expert Professional Practice) and determining the appropriate performance level (foundation, intermediate, advanced, expert) despite referring to the DFP guidebook. This situation is less than ideal, as the DFP aims to assist pharmacists across various practice settings. Concurrently, education supervisors also face challenges when reviewing the presented evidence. This is possibly due to the descriptions and evidence examples provided in the DFP guidebook, which predominantly pertain to the hospital pharmacy setting, leave little clarity on how to adapt the framework's contents to the community pharmacy setting. Hence, there is a need to better refine the performance criteria and evidence examples of DFP Domain 1 (Expert Professional Practice) so that they are more relevant to the community pharmacy practice. Indeed, in a recent in-house survey, education supervisors feedback that the support they need the most is guidance on "*whether the presented evidence can be counted as evidence and selecting the*

*appropriate performance level*" (Unpublished data, 2021).

This study aimed to explore the challenges in identifying suitable evidence to meet the different competency standards and performance levels for Domain 1 (Expert Professional Practice) of the DFP within a community pharmacy setting through local stakeholders engagement. The findings would facilitate onboarding pharmacists in DFP Domain 1 (Expert Professional Practice) evidence selection and classification, thereby encouraging more community pharmacists to adopt DFP in their practice. This is important as studies have shown enhanced pharmacist performance and project participation when frameworks are employed to identify knowledge gaps, tailor learning activities and guide career development (Heavner *et al.*, 2016; Udoh *et al.*, 2021). There is currently insufficient data regarding the areas where community pharmacists need the most improvement in Singapore. However, a study carried out in Croatia emphasised "*Pharmaceutical care competencies*" as a key area for community pharmacists to prioritise (Držaić *et al.*, 2018). Hence, it is crucial to refine the performance criteria for this domain. In addition, this study promotes the standardisation and transferability of DFP evidence and the resultant accreditation across community pharmacy practice.

## Methods

### Study design and participants

A qualitative study that involved Focus Group Discussions (FGDs) was conducted with the key stakeholders in Singapore. The implementation of DFP in Singapore is relatively recent, and ongoing research is being conducted to evaluate its effects on healthcare systems. Given that the primary objective of this study was to investigate the perspectives of key stakeholders regarding DFP in a community pharmacy setting, a decision was made to utilise FGD to uncover contextual information about DFP.

The conceptually driven approach of purposive sampling was implemented to recruit main participants based on their experiences and a deep understanding of the DFP (Farrugia, 2019). It was decided to recruit a total of ten participants for this study (Creswell & Creswell, 2018; Hennink & Kaiser, 2022). Participants invited for the interview had to fulfil the following inclusion criteria: (1) DFP workgroup members or DFP leads or DFP education supervisors or pharmacy managers in community pharmacies or polyclinics in Singapore; and (2) Good understanding of the

framework. This was followed by the preparation of a question guide to perform the FGD. (*Polyclinics provide subsidised primary care, which includes primary medical treatment, preventive healthcare and health education in Singapore, versus community pharmacy, which is private practice and non-subsidised*).

Ethics exemption approval was obtained from the National University of Singapore Institutional Review Board before the commencement of the study (PHA-DERC-22). Ethical considerations were waived for this study due to the minimal risk posed to participants. To ensure participant anonymity and privacy, all data was anonymised prior to analysis and demographic information was not collected from the participants.

### **Development of question guide**

The question guide was developed by two study members (JBKC, SWL) with experience in adopting DFP in their practice since 2019. They developed three questions regarding the general implementation of DFP practices in the community pharmacy setting. These broad questions were then followed by 16 specific inquiries pertaining to the four standards within Domain 1 (Table III). To enhance the FGD process, a total of 122 anonymised real-life examples of evidence from Domain 1 (Expert professional practice) were gathered from six pharmacists within the community pharmacy chain who had previously attempted the domain. The questions and collated evidence examples underwent further review and finalisation by all the study team members.

### **Recruitment**

After finalising the facilitator question guide, potential participants were contacted via email from June to July 2022. The recruitment process was carried out with the support of the Chief Pharmacist's Office, and the electronic recruitment flyer was included as an attachment in the email. In order to ensure a clear understanding of the study's objectives and procedures, interested participants were provided with the study information sheet, which explained the details. They were given the opportunity to have any questions or concerns addressed before proceeding

with their involvement in the study. Informed consent was obtained before the FGDs were conducted. Participants were duly informed about their voluntary participation in the study, emphasising their right to withdraw at any point as per their discretion. Approximately one week prior to the FGD, the collated evidence examples and questions listed in Table III were emailed to participants to give them ample time to prepare for the discussion.

Recruiting participants for the study posed challenges due to the limited availability of individuals with the required experience in DFP, as well as the busy schedules of DFP workgroup members and the DFP leads within respective organisations. Eventually, a total of nine participants were successfully recruited for the study.

### **Data collection and analysis**

Between June and July 2022, three structured FGDs were carried out via Zoom. These FGDs were conducted in English and moderated by two co-investigators (XLL, SLHG) who had received training in qualitative interviewing techniques. The questions listed in Table III were asked to elicit participants' perceptions of the DFP evidence. Questions asked were broad and open-ended in nature to avoid restricting the scope of the answers provided. A community pharmacist from the pharmacy chain, who was not a co-investigator in this study, also attended the FGDs as an observer, providing the participants with an opportunity to seek clarification on the collated evidence examples as needed.

All interviews were audio-recorded digitally and transcribed before analysis. Subsequently, each transcript underwent independent analysis by two authors (XLL, SWL). These transcripts were read multiple times to ensure data familiarisation. The generated codes and their corresponding data were used to identify potential themes through an inductive thematic analysis. This thematic analysis approach was selected for its flexibility and lack of pre-determined theories or frameworks in view of the limited literature on our research questions (Chapman *et al.*, 2015).

**Table I: The seven domains within Development Framework for Pharmacists**

Domain	Standard
1. Expert professional practice	Standard 1.1 Demonstrates expert skills and knowledge Standard 1.2 Manages patient care responsibilities/ delivery of professional activities Standard 1.3 Exhibits reasoning and judgement including analytical skills, judgmental skills, interpersonal skills and appraisal of option Standard 1.4 Uses professional autonomy
2. Building working relationships	Standard 2.1 Ability to communicate effectively (Communication) Standard 2.2 Collaborates with members of the health care team and offer consultations (Teamwork and Consultation)
3. Leadership	Standard 3.1 Creates vision Standard 3.2 Strategic planning Standard 3.3 Innovation Standard 3.4 Motivates individual (Motivational)
4. Management	Standard 4.1 Implementing organisational priorities Standard 4.2 Managing resource utilisation Standard 4.3 Establishing standards of practice Standard 4.4 Managing risk Standard 4.5 Managing performance Standard 4.6 Project management Standard 4.7 Managing change
5. Education, training and development	Standard 5.1 Role model Standard 5.2 Mentorship Standard 5.3 Conducting education and training
6. Research and evaluation	Standard 6.1 Evaluating literature critically and identifying evidence gaps Standard 6.2 Developing and evaluating research protocols Standard 6.3 Disseminating evidence Standard 6.4 Guiding others undertaking research Standard 6.5 Establishing research partnerships
7. Professionalism	Standard 7.1 Professionalism and code of ethics Standard 7.2 Compliance to legal frameworks and requirements Standard 7.3 Ethical practice

**Table II: The four standards within Domain 1 (Expert professional practice)**

1. Expert professional practice				
Performance level	Foundation	Intermediate	Advanced	Expert
<b>Standard 1.1</b> <b>Demonstrates expert skills and knowledge</b>	Demonstrates application of clinical knowledge and skills in core areas in one's work setting(s).	Demonstrates general pharmaceutical knowledge in core areas.  Is able to plan, manage, monitor, advise and review pharmaceutical care programmes for patients.	Demonstrates advanced pharmaceutical knowledge in a defined area(s).  Is able to plan, manage, monitor, advise and review pharmaceutical care programmes for patients in a defined area(s).	Demonstrates ability to advance the knowledge base in the defined area.  Is able to advance specialist pharmaceutical care programmes for patients in the defined area(s).
<b>Standard 1.2</b> <b>Manages patient care responsibilities/ delivery of professional activities</b>	Is accountable for the direct provision of pharmaceutical care to patients assigned under one's care.	Is accountable for the delivery of a pharmacy service to patients to whom they themselves	Is accountable for the delivery of a pharmacy service to a defined group of patients.	Is accountable for the delivery of pharmacy services beyond defined group of patients.

1. Expert professional practice				
Performance level	Foundation	Intermediate	Advanced	Expert
		directly provide pharmaceutical care.		
<b>Standard 1.3 Exhibits reasoning and judgement including analytical skills, judgmental skills, interpersonal skills and appraisal of option</b>	Demonstrates ability to analyse situations, appraise options and make appropriate decisions in daily work.	Demonstrates ability to use skills in a range of routine situations requiring analysis or comparison of a range of options.	Demonstrates ability to use skills to make decisions in complex situations where there are several factors that require analysis, interpretation and comparison.	Demonstrates ability to use skills to manage difficult and dynamic situations.
	Demonstrates ability to recognise importance and/or urgency of resolving a problem.	Recognises priorities when problem-solving and identifies deviations from the normal pattern.	Demonstrates an ability to see situations holistically.	Demonstrates ability to see situations holistically and make decisions in the absence of evidence or data or when there is conflicting evidence or data.
	Demonstrates ability to identify deviations from workplace policies and procedures or legal requirements and regulations pertaining to pharmacy practice.			
<b>Standard 1.4 Uses professional autonomy</b>	Is able to follow legal, ethical, professional and organisational policies/ procedures and codes of conduct.	Is able to follow legal, ethical, professional and organisational policies/ procedures and codes of conduct.	Is able to take action based on own interpretation of broad professional policies/procedures where necessary.	Is able to interpret overall health service policy and strategy, in order to establish goals and standards for others within the defined area(s).

Table III: Questions guide and probes

Broad questions	
1	What are your views on the examples given in the Development Framework for Pharmacists (DFP) document pertaining to Domain 1 (Expert professional practice) professional activities?
2	What can be done to standardise the DFP evidence across community pharmacy practices?
3	Are there any areas in which you would like to bring up regarding the DFP?
Specific questions and prompts	
Standard 1.1 Demonstrates expert skills and knowledge	
4	Do you agree or disagree that examples listed under Professional Education Courses should be included in this standard? Why?
5	Do you agree or disagree with how the evidence examples for Professional Education Courses are classified? Why?
6	What are your views on evidence examples given for Education and Training being included in Domain 1 (Expert professional practice) and Standard 1.1 (Demonstrates expert skills and knowledge) as compared to Domain 5 (Education, training and development)?
7	Do you agree or disagree with placing authors on a lower performance level than vettors? Why?
8	Do you agree or disagree with placing evidence examples involving the public on a higher performance level than evidence examples that involves in-house audiences? Why?
9	Are there any other examples of evidence you would like to bring up that could be included in this standard?
10	What do you think of patient education (e.g. preparing patient education material, giving public talk) as evidence for this standard?
11	In your opinion, can non-direct patient care be counted as evidence for this standard? E.g. vetter for slides and presentation content for congress presentation
12	If not, how will a community pharmacist achieve this standard if there are no clinical programs in the organisation (due to company business decision)?
Standard 1.2 Manages patient care responsibilities/delivery of professional activities	
13	Are there any similarities or differences in Standard 1.1 (Demonstrates expert skills and knowledge) and Standard 1.2 (Manages patient care responsibilities/delivery of professional activities) that you can spot?
14	What do you think of back-end work as evidence for this standard? (E.g. drafting pre-set drug/food administration instruction, cautionary instructions for medication in dispensing system)

15	What is your definition of a 'group of patients' in community pharmacy setting? - Is it based on disease or setting (e.g. nursing home)? - What are your thoughts on pharmacists that are not involved in nursing home visits?
<b>Standard 1.3 Exhibits reasoning and judgement including analytical skills, judgmental skills, interpersonal skills and appraisal of option</b>	
16	What do you think are the differentiating factor(s) across different levels?
17	Can you describe some examples of situations you have encountered or are aware of, that you would characterise as "complex situations"?
18	What do you think of the current criteria that are used as a measurement of complexity? For example, internal vs external, number of stakeholders
<b>Standard 1.4 Uses professional autonomy</b>	
19	What do you think of breaking up the Foundation and Intermediate performance level into two distinct levels?

## Results

A total of three FGDs were conducted, each with a varying number of participants. The first FGD had two participants, the second FGD had four participants, and the third FGD had three participants.

In total, one DFP workgroup member, two polyclinic pharmacists and six community pharmacists participated in the study. The study identified two themes that emerged during the implementation of DFP as presented below, followed by specific themes corresponding to the four standards.

### **Applicability of the existing DFP evidence examples in community pharmacy practice**

The question of whether the evidence examples in the DFP document were applicable to community settings generated differing opinions. Nevertheless, a consensus emerged, acknowledging the relevance of certain examples. However, to establish the suitability of the evidence across various domains, additional clarification was necessary.

*"Some of the examples are quite relevant to my (polyclinic) setting and some are quite relevant to the retail setting as well e.g. public talks. The examples are not exhaustive, and they are reference for institutions to build their in-house example. However, it is still good if there are more examples for everyone."* (FGD 1/P1)

*"Overall, most of the evidence examples are still quite relevant to polyclinic setting, but I do see that maybe some examples may not be so directly applicable to retail setting."* (FGD 1/P1)

*"A lot of examples given under standard 1.2 in the DFP document are not so relevant to retail setting. In retail, we will focus on ... patient care improvement projects, operations like telepharmacy platform and workflow."* (FGD 1/P2)

*"The evidence examples can be relevant across all practice settings as the skills needed are common to all pharmacists."* (FGD 2/P1)

*"Evidence examples need to be customised to community setting."* (FGD 2/P2, P4)

*"For Domain 1 Expert Professional Practice, it is what we do on a daily basis, but depends on what is considered professional by Chief Pharmacist's Office – clinical, operations or training are all professional activities, so depends on how the pharmacist justifies."* (FGD 1/P2)

*"Some evidence examples need further definition to be clear what kind of evidence they are referring to."* (FGD 3/P3)

*"Case logs or records are ambiguous in terms of what they are referring to in community setting. They can be cases from nursing homes or follow-ups with regulars (e.g. on chronic medications) at store level. They can also include complicated interventions performed for a patient."* (FGD 3/P1-P3)

### **Generalisability of DFP evidence examples across community pharmacy practice**

The participants held the perspective that new evidence examples should be applied broadly across different community pharmacies as long as the DFP was not intended for appraisal purposes.

*"This focus group discussion is a very good way of [standardising] across all these community pharmacist practices ... especially for domain one."* (FGD 2/P3)

*"If using DFP as a competency assessment tool, for promotion activities, it will need to be customised to the institution and cannot be standardised across the different settings."* (FGD 2/P1)

### **Standard 1.1 Demonstrates expert skills and knowledge**

*Professional education as evidence for demonstrating competence in accordance with Standard 1.1 (Demonstrates expert skills and knowledge)*

The question of whether the examples for professional education courses should be incorporated into Standard 1.1 (Demonstrates expert skills and knowledge) was posted. The response indicated a consensus that mere possession of certifications was insufficient to establish compliance with the standard. Instead, it was believed that individuals should demonstrate their practical skills through application, such as providing smoking cessation counselling or performing medication reconciliations. As an alternative suggestion, it was proposed that only courses with assessments should be recognised as valid evidence.

*"There should be application shown of the knowledge gained from the courses. Or a sharing of the knowledge gained with colleagues." (FGD 1/P1-P2)*

*"They are just theory-based teaching to get the certification, no assessment component, thus not considered evidence examples. For example, the NUS (National University of Singapore) immunisation course and masters, there are practical assessments and tests involved to get certified/degree, so they can be acceptable evidence examples." (FGD 3/P1)*

It was important to observe the actions taken by the pharmacist following completion of the workshop. For example, upon completing the DFP portfolio building workshop, the pharmacist recruited his colleagues to build their portfolios with DFP. The successful outcome of this drive would be expected to place the pharmacist at an "expert level," as noted by a participant in FGD 1/P2.

*Evidence for education and training being included in Standard 1.1 (Demonstrates expert skills and knowledge)*

During the presentation of evidence related to education and training, the participants were asked whether this evidence could be included in Domain 1 (Expert professional practice). The participants reached the consensus that a single piece of evidence had the potential to fulfil multiple domains, but they found it more fitting for Domain 5 (Education, training, and development). Furthermore, they emphasised that the relevance of the evidence hinged on how it was presented.

*"Relevant in Domain 1 (weak evidence) but more so for Domain 5 (strong evidence). Providing training to intermediate and long-term care nurses can be in domain 1 as can show knowledge. Also depends on how the pharmacists present the evidence and justify them for domain 1." (FGD 1/P1-P2)*

*"... if the evidence is relevant, it can be populated in more than one domain ..." Overall, still more relevant to standard 5.3. (FGD 2/P1)*

*"Can be included in domain 1 but the evidence needs some tweaking..." (FGD 3/P1, P3)*

*Placement of performance levels for authors and vetters in Standard 1.1 (Demonstrates expert skills and knowledge)*

For standard 1.1 (Demonstrate expert skills and knowledge), there are four performance levels: Foundation, Intermediate, Advanced, and Expert (Table II). During the FGD, a question was raised about where to position the performance level of pharmacists who were responsible for drafting or updating guidelines, developing patient leaflets, creating tutorial worksheets for interns (collectively named as authors), or vetting all the above (vetter).

Two participants (FGD 1/P2, FGD 2/P2) believed that vetter should be classified at a higher performance level than authors, due to their senior position and greater responsibilities for verifying information and suggesting improvements. However, two other participants (FGD 2/P3, FGD 3/P1) felt that both author and vetter should be classified at the same level, as each member played different roles in a team.

*"Vetter is higher competency (performance) level than author; vetter is like the teacher to the author (student)." (FGD 1/P2)*

*"It's not so clear cut as sometimes, both authors and vetters are the same standard and are in the same committee, but there is a need for different roles in the committee, e.g. author and vetter, so the team with the same standard need to split the roles." (FGD 2/P3)*

*"The author needs to research and create a new piece of document whereas the vetter also needs to research and ensure the information is accurate and the analysis is sound." (FGD 3/P1)*

On the other hand, a participant (FGD 2/P1) highlighted that it would be easier to differentiate the performance level of authors and vetters if using the descriptors under standard 5.3 (Conducting education and training) instead of Standard 1.1 (Demonstrates expert skills and knowledge).

*Placement of performance levels for activities involving external and internal audiences in Standard 1.1 (Demonstrates expert skills and knowledge)*

During the FGD, the question arose about the appropriate placement of performance levels (foundation, intermediate, advanced, expert) for a pharmacist conducting educational talks to members of the public and healthcare professionals through various means, such as face-to-face or virtual platforms.

A portion of the participants opined that the examples of evidence for internal audiences, consisting of pharmacists and nurses, should be regarded at a higher performance level. This viewpoint was based on the notion that internal audiences, being healthcare professionals, would necessitate more comprehensive information as compared to external audiences (layman).

*“In-house audience deserves a higher performance level as information (clinical knowledge) are catered to healthcare professionals so more in-depth. Information to the public is more layman and basic. Pharmacy technician audience will be pegged similar to public talks, but pharmacist audience will be higher performance level.” (FGD 1/P1)*

A participant (FGD 1/P2) argued that even when aimed at a non-expert audience, it was probable that a senior and experienced pharmacist would be chosen to deliver public presentations, thereby clearly placing the activity into the intermediate or advanced level category in view of the pharmacist’s expertise.

The question of whether the performance level should differ based on the target audience was also discussed in written materials such as in-house patient information leaflets versus national leaflets (which have a larger reach) and in-house guidelines versus national guidelines.

With regards to in-house and national-level patient information leaflets, a participant (FGD 2/P2) opined that both should be classified under the same performance level, as they offer the same level of benefit to their respective audiences.

Participants in FGDs (P1, P2 and P4) emphasised placing authors of in-house guidelines at an advanced level rather than a foundation level due to the necessary skillset. This viewpoint was articulated through the statement: “you wouldn’t trust guidelines produced by entry-level pharmacists”.

*Proposals for streamlining performance level classification for Standard 1.1 (Demonstrates expert skills and knowledge)*

Participants proposed ways to facilitate performance-level classification. One suggestion was utilising the pharmacist’s self-assessment through written reflections, which would also highlight areas for improvement, to categorise performance levels (FGD 1/P1-P2). Other elements that could be considered in the classification include the target audience (FGD 1/P2, FGD 3, P1-P3), evaluation of the speaker’s performance, the content (FGD 3/P1-P3), the scope of professional activities (FGD 3/P2), such as whether the activity is limited to dispensary operations or involves collaboration with other institutions, and the presence of research elements in the evidence examples presented (FGD 2/P1).

**Standard 1.2 Manages patient care responsibilities/delivery of professional activities**

*Comparison of Standard 1.1 (Demonstrates expert skills and knowledge) and Standard 1.2 (Manages patient care responsibilities/delivery of professional activities)*

With regards to the ability of participants to distinguish between Standard 1.1 (Demonstrates expert skills and knowledge) and Standard 1.2 (Manages patient care responsibilities/delivery of professional activities), one participant in FGD 1 reported no difficulties in differentiating between the two. In contrast, another participant in FGD 2 indicated that only the foundation and intermediate performance levels for both standards appeared similar, while subtle differences could be observed between the advanced and expert performance levels of the two standards (Table II).

*“Standard 1.2 is about patient care whereas 1.1 is more on the skills and knowledge itself. There is an area of overlap (“half-half”), like a Venn diagram. Depends on the evidence and how it is presented, it can fulfil both standard 1.1 and 1.2 or either of the two standards.” (FGD 1/P1)*

*“For foundation/intermediate levels, the similarities are more obvious, and evidence can be applied across both standard 1.1 and 1.2. For advanced/expert levels, there are subtle differences. For 1.1, the focus is on application of clinical knowledge. For 1.2, the focus is on delivery of an activity and the outcome, e.g. if KPI is achieved, 360-degree feedback.” (FGD 2/P3)*

Another participant noted that a common evidence example was present in both Standard 1.1 (Demonstrates expert skills and knowledge) and 1.2 (Manages patient care responsibilities/delivery of



professional activities) in the DFP. The participant suggested that if an example were to be included as evidence across multiple standards, it would be beneficial to provide a clear definition to distinguish it to avoid pharmacists utilising the same evidence for many standards.

*“Evidence examples given in the DFP make a difference to the definition. So, if putting the same example of case logs in both standards, there is a need to define the content you are looking for in the different standards’ case logs to differentiate the two standards.” (FGD 3/P1)*

#### *Perception of back-end work as evidence for Standard 1.2 (Manages patient care responsibilities/delivery of professional activities)*

The question of whether back-end work could be considered as evidence for Standard 1.2 (Manages patient care responsibilities/delivery of professional activities) elicited varying opinions among pharmacists. Most were in favour of its inclusion, citing the positive impact on patients and relevance to the community setting as the primary reasons.

*“Yes, can include. Nature of the portfolio work for the pharmacist is back-end, so even if indirectly providing patient care, also can accept the evidence for standard 1.2. Eventually it does benefit the patients being served directly. This kind of portfolio work happens in a lot of different settings also.” (FGD 1/P1-P2, FGD 2/P1-P4)*

Conversely, some participants opposed this view, arguing that the back-end work did not directly contribute to patient services and lacked accountability.

*“Drafting the pre-set instructions does not fulfil the description of direct provision of care. Does not make the person accountable too.” (FGD 3/P1, P2)*

#### *Definition of “defined group of patients”*

During the FGD, participants were asked to provide input on a “defined group of patients” for Standard 1.3 at the advanced level, which states, “Is accountable for the delivery of a pharmacy service to a defined group of patients.”

Participants offered a variety of definitions for “defined group of patients”. Some participants suggested that the descriptor might pertain to the pharmacist in delivering pharmacy services to a group of patients with a medical condition, such as diabetes management service, or it referred to a provision of pharmacy services in a specific location where the patient was residing, like in a nursing home. Certain

participants expressed the viewpoint that the designated group of individuals mentioned in the definition doesn't necessarily have to be limited to patients. Instead, it could encompass health promotion services and similar initiatives such as smoking cessation (FGD 2/P2) or vaccination (FGD 2/P1), or even expanding to include medication delivery or telepharmacy services (FGD 1/P1-P2).

*“Can be based on either setting or disease. A more specialised group of patients, not all patients you see (too general). Or like a ‘targeted group of patients’. Situation-based like during Covid, medication delivery service to a targeted group of patients.” (FGD 3/P2, P3)*

During the discussion, a participant (FGD 1/P2) highlighted the importance of considering the scope of the pharmacy service. The participant gave an example of how an expert level of Standard 1.2 (Manages patient care responsibilities/delivery of professional activities) would not simply involve service provision at the company level but rather a collaborative project involving national institutions such as the Pharmaceutical Society of Singapore or a nationwide initiative.

#### **Standard 1.3 Exhibits reasoning and judgement, including analytical skills, judgmental skills, interpersonal skills and appraisal of option**

Standard 1.3 necessitates that pharmacists demonstrate reasoning and judgment including analytical skills, judgmental skills, interpersonal skills, and appraisal of options. The performance level for this standard is generally determined by the complexity of the issue (Table II). Hence, a guiding question was raised during the FGD regarding whether participants could identify a suitable performance level for different scenarios based on the descriptors outlined for each level in the DFP guidebook.

Some participants perceived the differentiation of performance levels as straightforward, while others believed it to be more challenging due to the subjective nature of the descriptors.

*“Depends on the situation being presented as evidence, the complexity and how it was handled. Definition of complex is very subjective. Need to take into account the experience level of the pharmacist, which makes the whole thing very subjective.” (FGD 1/P1-P2)*

The participants were in consensus regarding the real-life DFP examples provided to assess the complexity of a situation. These examples considered both internal and external factors, as well as the number of

stakeholders involved, to determine the level of complexity in each scenario.

Additional factors were proposed by the participants to further characterise complex situations, such as the severity of the situations, the length of time required to resolve the situation, changes to workplace policies as a result of the situation, and the outcome of the situation, with success being defined as resolution or achieving an even more favourable outcome (FGD 1/P1).

*“A customer complaint that gets blown up till the customer wants to sue. The pharmacist devises a plan that involves other departments, follow through and review outcome. This can be under intermediate or advanced level. The length of time to resolve a situation can be a factor. [For] foundation level, customer complaint will not result in workplace policy change.” (FGD 1/P2)*

Interestingly, participants raised the point that “difficult, uncooperative customers” could also serve as an indicator for complex situations.

*“How difficult the patient is adds to the complexity. When they consume false information elsewhere and refuse to be corrected e.g. brand specific drug recall.” (FGD 2/P1, P2, P4)*

A participant (FGD 3/P3) highlighted that criterion was not always needed to stage complexity level. For example, as a chief preceptor of an institution in charge of pharmacy trainees’ training, the role was self-explanatory and involved handling complex situations. Other examples of complex situations included dispensing errors requiring remedial action leading to escalation of the situation, as well as disruptions in the supply of a few drugs concurrently during the COVID-19 pandemic (FGD 2/P2, P4).

A participant (FGD 3/P2) further elaborated that complex situations were also characterised by their ambiguous nature, demanding non-straightforward solutions and necessitating the evaluation of conflicting interests while ensuring fairness to all relevant parties. The final resolution should be both just and feasible.

#### **Standard 1.4 Uses professional autonomy**

##### *Breaking up the Foundation and Intermediate performance levels into two distinctive levels*

In contrast to the other three standards in this domain, Standard 1.4 (Uses professional autonomy) combines the foundation and intermediate levels together, as evident from the shared descriptors (Table II).

The participants were asked for their opinions on whether the foundation and intermediate performance

levels should be consolidated or differentiated. The majority of participants favoured the current design, where the foundation and intermediate levels are combined. They viewed that the distinction between the two levels was not significant. However, a minority of participants favoured the separation of the two levels, with one suggesting that criteria for differentiation could be based on the degree of adherence to applicable regulations and policies (FGD 1/P1).

Some participants suggested that the foundation level should focus on adherence to legal and good pharmacy practice, while the intermediate level should focus on ethical considerations and codes of conduct as they involved the exercise of judgment and were not always straightforward (FGD 3/P1, P3).

Finally, a participant suggested merging the intermediate level with the advanced level instead. This was because the foundation level focused on adherence to legal and ethical standards, which was quite straightforward, while the intermediate and advanced levels demonstrated decision-making skills and implementation of professional policies in ambiguous situations.

*“Can consider separating, but intermediate level should merge with advanced level. Foundation level is no ambiguity. Intermediate or advanced level depends on degree of ambiguity.” (FGD 3/P3)*

## **Discussion**

DFP is adapted from the Advanced to Consultant Level Framework developed by the UK Competency Development and Evaluation Group, which is designed to serve as a comprehensive model applicable across various sectors within the pharmacy profession. The adoption of the Advanced to Consultant Level Framework extends beyond Singapore and is also utilised in countries such as the United Kingdom (The Royal Pharmaceutical Society Advanced Pharmacy Framework) (The Royal Pharmaceutical Society, 2013) and Australia (Advanced Pharmacy Practice Framework for Australia) (Jackson et al., 2015). While Ali et al. have validated the framework’s significance and applicability (Ali et al., 2016), it is important to note that the difference in competencies between hospital and community pharmacy settings has been pointed out (Atkinson et al., 2016). As a response to these differences, a dedicated professional competency framework was developed for community pharmacists in Thailand (Parinyarux et al., 2022) with the aim of fostering professional development. Similarly, Lebanon

has also introduced a framework for specialised competencies tailored to community pharmacists to support their professional development and career progression (Sakr *et al.*, 2023). Therefore, in this study, participants were surveyed regarding the applicability of DFP in community pharmacy practice, revealing that most participants believed that DFP is suitable for community pharmacy. The relevance likely stemmed from the diverse responsibilities that community pharmacists undertake daily (Goode *et al.*, 2019). These tasks encompass various domains, including medication dispensing and counselling (Singapore Pharmacy Council, 2021), patient education, especially during the Covid-19 pandemic (Poh & Lin, 2021), providing medication reconciliation and review (Neo *et al.*, 2019; Singapore Pharmacy Council, 2021), provision of in-store patient care services (Camillia Deborah Dass, 2017; Yap *et al.*, 2019), participating in collaborative patient care services with healthcare professionals (Lum *et al.*, 2022; Singapore Pharmacy Council, 2021), engagement in telehealth services (Yap *et al.*, 2021), promoting public health, pursuing continuing pharmacy education and many others.

Interpreting the DFP standards can be challenging, particularly at the beginning, as there are variations in understanding among onboarding pharmacists and education supervisors, leading to potential inter-rater variability (International Pharmaceutical Federation (FIP), 2020). This study recommended clear articulation of the performance criteria expected to promote standardisation. To improve the understanding of the expected competencies across the four performance levels, it is beneficial to give examples of typical tasks performed by community pharmacists to facilitate a better grasp of the required competency. However, as a list of tasks performed by community pharmacists is not exhaustive, it may be worthwhile to explore the development of a rubric or matrix that can assist in determining the appropriate performance level for various aspects of a community pharmacist's work. A rubric model that considers various factors is also valuable in addressing the remaining two standards: Standard 1.3 (Exhibits reasoning and judgement including analytical skills, judgmental skills, interpersonal skills, and appraisal of option) and Standard 1.4 (Uses professional autonomy). Currently, the rubric is not employed for assessing performance levels for practising pharmacists. However, it is effective in appraising student progress and improving performance through increased transparency (Panadero & Jonsson, 2013; García-Ros *et al.*, 2021; Gan *et al.*, 2023). From the assessor's perspective, a rubric eases the grading process, enhances scoring accuracy and consistency, and facilitates the feedback process (Panadero & Jonsson, 2013). This can greatly

assist education supervisors in this DFP system to determine performance level for evidence presented by pharmacists.

Whilst noting that most community pharmacists are patient-facing healthcare professionals, they are also involved in back-end work such as preparing medication information to be built into the pharmacy dispensing system for the benefit of patients. The existing DFP guidebook lacks explicit guidance on whether these back-end responsibilities meet the requirement of the provision of pharmaceutical care or pharmacy services for Standard 1.2 (Manages patient care responsibilities/delivery of professional activities). In the discussions held during the FGDs, most of the participants viewed that back-end tasks should be considered as part of providing pharmaceutical care, given pharmacists apply their therapeutic knowledge in the activity and the benefits it brings to the patients. In light of the Pharmaceutical Care Network Europe's definition of pharmaceutical care, reading: "*Pharmaceutical Care is the pharmacist's contribution to the care of individuals in order to optimise medicines use and improve health outcomes*", which refrains from specifying the activities as part of the definition (Allemann *et al.*, 2014), the participants' viewpoints appear reasonable and align with this broader understanding of pharmaceutical care.

However, it is worth noting that the American College of Clinical Pharmacy (ACCP) places a strong emphasis on direct patient care, making it a key domain within the clinical pharmacist's core competency (Saseen *et al.*, 2017). While ACCP recognises that pharmacists actively participate within healthcare systems, such as assessing drug utilisation patterns and establishing drug protocols to enhance patient care, they categorise these activities under a separate competency domain called "*Systems-based care and population health*".

This study identified a few areas in Domain 1 (Expert Professional Practice) that need further refinement to better reflect the practice of community pharmacists. Indeed, this domain required the most deliberation and amendments during the development of the Advanced Pharmacy Practice Framework for Australia in Australia (Jackson *et al.*, 2015). Reviewing this feedback is important because it aids in improving the relevance, usefulness, and applicability of the framework in community pharmacy practice. However, more significantly, it supports the professional development of community pharmacists and recognises their advanced roles beyond traditional medication dispensing. This recognition can lead to the enhancement of community pharmacy services, as well as the development and implementation of policies that fully unleash the potential of community

pharmacists in addressing the evolving healthcare needs of the ageing population (Salma Khalik, 2015; Ministry of Health, 2019; Ministry of Health, 2022).

This study is, to the best of our knowledge, the first study that investigated pharmacy framework implementation in a community pharmacy setting in Singapore. One of the strengths of the study is practising community pharmacists who are end-users were invited to the FGDs to refine and seek agreement on the framework. Future work is required to determine the level of agreement amongst key stakeholders regarding the potential refinement of the framework. The inclusion of polyclinic pharmacists in the FGDs could have limited the generalisability of the findings to private pharmacy chains. The decision to include polyclinic pharmacy is because it provides primary care and is comparable to private community pharmacy to a certain extent (HealthHub, 2019). In this way, the results of the study would provide better standardisation of DFP in community pharmacy practice.

A limitation of this study is the small sample sizes in the FGDs, consisting of only two to four participants. This small group size may hamper the generation of extensive and insightful discussions. However, the themes generated in this study may be further investigated in a larger study. Another limitation of this study is the lack of validation for questions asked during the FGDs, as there are no prior surveys for comparison. However, refinement by all co-investigators, including two with expertise in the field, instils confidence in the FGDs' effective coverage.

## Conclusion

DFP is a suitable resource to support and guide the professional growth of community pharmacists. Working on the feedback collected is desirable so that community pharmacists can better implement and integrate the framework into their practice.

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## Conflict of Interest

The authors have indicated that they have no conflicts of interest with regard to the content of this article.

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