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How might clinical pharmacists use a profession developed competency based self-assessment tool to direct their professional development?

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Abstract

Background: The Society of Hospital Pharmacists Australia (SHPA) created a **clin**ical **c**ompetency based self-**a**ssessment **t**ask (the shpaclinCAT) to be used by clinical pharmacists throughout Australia to assess their clinical competency and direct their professional development.

Aims: The primary aim of this project was to investigate how clinical pharmacists might use the shpaclinCAT self-assessment tool to direct their professional development.

Secondary aims included identifying barriers or challenges with the use of this tool to direct professional development, whether pharmacists differ in their approach to the self-assessment task based on their level of experience and to derive recommendations for revisions to this tool.

Method: Three newly registered pharmacists and three experienced clinical pharmacists were conveniently selected to be part of this project. Due to the small sample size, this work was considered a pilot study. Each pharmacist attended a 20-minute semi-structured interview which explored the participant's experience and the process undertaken to complete the shpaclinCAT self-assessment task. The principals of thematic analysis were used to code interview transcripts and to identify common themes.

Findings of the research: The findings of this project suggest that the shpaclinCAT self-assessment tool provides benefit to less experienced pharmacists due to its general procedural nature. More experienced pharmacists however did not find the tool captured their current level of practice. Participants suggested that the length of the assessment tool, relevancy, difficulties with understanding terminology and completing the self-assessment as potential barriers to the use of this tool.

Conclusion: This project provides further evidence of the importance of obtaining participant feedback when evaluating new assessment systems. It is recommended to target the use of this tool to less experienced pharmacists due to its general procedural nature. Further development of this tool is suggested to improve usability and its ability to direct professional development.

I RESEARCH BACKGROUND AND CONTEXT

Within the pharmacy profession competency based self-assessment tools are used to evaluate competence and promote self-reflection, by identifying gaps in practitioner's knowledge and skills and by directing their continued professional development (SHPA, 2014). The Society of Hospital Pharmacists Australia (SHPA) has created the SHPA **clin**ical **c**ompetency **a**ssessment **t**ask (shpaclinCAT) designed primarily for hospital based clinical pharmacists throughout Australia (Society of Hospital Pharmacists Australia [SHPA], 2015).

The shpaclinCAT consists of 14 competencies, accompanied by 109 performance criteria and an evidence guide. One of the competencies evaluated is 'obtaining a medication history'. The performance criteria relating to this competency includes 'retrieving relevant information, providing a clear introduction to the consultation and using appropriate questioning' (SHPA, 2014). A second competency evaluated is 'the provision of medicine'. This competency corresponds to the performance criteria including 'supplying medicines accurately and legally, supplying in a timely manner and ensuring medicines are administered correctly' (SHPA, 2014). Pharmacists are required to assess themselves on the frequency (from rarely to consistently) they perform each competency criteria outlined in the tool. Once the self-assessment is complete the pharmacist reviews the assessment and develops a professional development plan. The plan identifies areas in which the pharmacist believes they are performing well, areas they would like to gain experience and areas needing improvement. The plan also outlines how areas requiring improvement are to be addressed through continuing education or training, within a proposed time frame. The self-assessment may or may not be followed up by a peer evaluation using the same tool (SHPA, 2014).

According to the developers of the tool, the tool was designed to "raise the standards and consistency of pharmacy practice, by providing a quality assurance for pharmacy practices, identifying inadequacies in systems and process and to identify the professional development needs of pharmacists" (SHPA, 2014).

At Monash Health (a large tertiary hospital network in Victoria) the pharmacy department has adopted the use of the shpaclinCAT as a way to guide the professional development of clinical pharmacists. This project has been driven by the researcher's own experience with this tool, which has raised concerns regarding its relevance, resource intensive nature and procedural focus. The lack of balanced published feedback regarding the use of this tool and concerns regarding the reliability of self-assessments (explored within the literature review of this report) have also driven this project. The importance of evaluating this self-assessment tool relates to the limited resources available within busy public hospitals. If this tool is not achieving what it was intended to achieve, other methods need to be considered.

II LITERATURE REVIEW

A review of the published literature was conducted using the Medline via Ovid, ERIC and Google Scholar databases, using the search terms 'self-assessment tools' and 'health professionals', 'professional development' and 'learning'. 'Full text' and 'English language' were limits placed on the search. For the review articles found, a search of the references cited within these articles was also undertaken.

The bolded headings of this literature review highlight the main themes identified as specific to this project from the extensive literature available.

A *Confusion with terminology and meaning*

1 *Self-assessment, self-reflection and self-evaluation*

Motycka et al. (2010) conducted a review regarding the use of self-assessment in pharmacy and health science education. One difficulty which was highlighted in their literature review and is relevant to the current research is the interchangeable use of self-assessment, self-reflection and

self-evaluation (Motycka et al., 2010). Whether the shpaclinCAT self-assessment tool is actually being used as a self-assessment tool or for self-reflection or self-evaluation will be considered during this project.

2   Self-monitoring and self-assessment

Self-monitoring and self-assessment are another set of terms that are often confused (Eva & Regehr, 2011). Eva and Regehr (2011) indicate that there is a divergence between self-assessment (reflecting-on-action) and self-monitoring behaviour (reflecting-in-action). They found in their study that individuals could rate themselves as being poor on a self-assessment but still exhibit effective self-monitoring behaviour. Their study however was not set in a clinical environment and did not consider whether the process of undertaking the self-assessment had altered self-monitoring behaviour. For the current study, the importance of this divergence relates to the intention of using self-assessments to guide professional development. During clinical practice it is encouraged to 'reflect-in-action' in order to rectify issues as soon as they arise rather than waiting to 'reflect-on-action'. It may not be appropriate to attempt to improve self-monitoring behaviour through self-assessment tools of competency. This aspect is considered in the current study by exploring the participant's views about how using the tool has impacted on their professional development of clinical skills.

B   Accuracy of self-assessment

1   Inaccuracy of self-assessments compared to external assessments

Several reviews consider the accuracy of health professional self- assessments compared to observed measures of competency. Despite the accepted theoretical value of self-assessment, the observed accuracy of self-assessment is low (Motycka et al., 2010). Davis et al. (2006) conducted a systematic review looking at the accuracy of physician self-assessment compared with observed measures of competence. Although most studies reviewed were suboptimal in quality, they suggested that physicians have a limited ability to accurately self-assess. It was found that less competent participants tended to over-rate themselves whilst competent participants tended to underrate themselves compared to peers (Davis et al., 2006).

Gordon (1991) also found in his review low validity of self-assessed performance that did not improve with experience or external feedback.

The implication of inaccuracy of self-assessments to the current study, is that if participants assess themselves inaccurately, then this conceptually leads to the construction of professional development plans based on inaccurate information. To limit the effect of the potential inaccuracy of self-assessment decisions within this study and instead focus on how self-assessment decisions might be used to direct professional development, a decision was made not to focus on participant's actual self-assessment decisions.

2   Strategies suggested to improve the accuracy of self-assessments

The SHPA addresses the issue of the inaccuracy of self-assessments by incorporating suggestions outlined by Motycka et al. (2010) into their assessment tool.

Motycka et al. (2010) advises to emphasise external feedback to inform self-assessment, improve feedback quality, recognise the theoretical versus achieved value of reflection, respond to external and internal motivation, and maintain attentiveness.

Asadoorian and Batty (2005) suggest a conceptual model of effective self-assessment for directing professional learning in the area of dental education. They suggest four necessary elements to an effective self-assessment model to guide professional development;(1) individual prerequisite competencies, (2) a defined process showing what the individual needs to do, (3) reflection, evaluation and application, (4) a tool to use to guide the self-assessment. They also highlight the need for scaffolding the learner through a supportive environment.

With respect to the shpaclinCAT self-assessment tool, the tool has been designed to guide practitioners in making self-assessment decisions. This will be explored further within the current research

3 Does it matter whether self-assessments are accurate?

Basnet et al. (2012) consider an alternative view regarding how learning occurs with self-assessments. Basnet et al. (2012) cite the work completed by McMillian and Hearn (2008). McMillian and Hearn (2008) consider (i) constructivist, (ii) self-efficacy, and (iii) metacognitive theories as being the three theories underlying learning associated with self-assessment.

With respect to the shpaclinCAT self-assessment, constructivism may occur as participant's attention is drawn to activities that they don't often or don't perform. This may lead the individual to construct new knowledge based on their existing knowledge (McMillan & Hearn, 2008).

Self-efficacy refers to ones belief in one's own abilities (McMillan & Hearn, 2008). The concept of self-efficacy is also discussed by social psychologist Bandura (1994) in his work. The earlier reported findings that less competent individuals tend to overate their abilities may be explained by Bandura as a lack of realistic self-perception (Bandura, 1994). Within the current study two cohorts of clinical pharmacists were used to investigate differences in the way this self-assessment is used based on the level of clinical experience.

Metacognition relates to thinking about one's own thinking (McMillan & Hearn, 2008). This concept will be considered in the current project as pharmacists undertaking the shpaclinCAT self-assessment are required to make decisions regarding competencies. Metacognitive theory also highlights the notion that most of our decision making is influenced by our unconscious.

C   Self-assessment as a way to direct professional development

In line with Knowles et al. (2012) adult learning theory, one of the key responsibilities of all health professionals and an aspect of professional behaviour is for practitioners to be self-regulated and drive their own professional development. It is believed that competent professionals pursue lifelong learning to formulate appropriate learning goals to correct perceived and real deficiencies (SHPA, 2014). The link between self-assessment and continuing education relies on the individual's awareness of the areas needing improvement and where to get help to facilitate this improvement (Redwood et al, 2010; SHPA, 2014).

Redwood et al. (2010) suggest that continuing professional development programs are designed to foster self-assessing and self-directed practitioners.

The above discussion highlights two concepts relevant to the current research study, the belief that self-assessment skills can be taught and the belief that self-assessments can be used to guide professional development and direct learning.

D   Can self-assessment skills be taught?

1 How much of our decision making is influenced by our conscious?

Eva and Regehr (2005) explore how metacognitive and social learning theories may impact on the reliability of self-assessment as a way of directing professional development. They suggest that in making self-assessment decisions individuals rely on the assumption that they have direct access to their own knowledge and memories. Metacognitive theory suggests that individuals use peripheral cues to make inferences about their knowledge and skills. Social psychologists further suggest that individuals have access to current thoughts and memories but not mental processes. It is suggested that individuals derive reasons for their behaviour based on inferences that are not necessarily true (Eva & Regehr, 2011).

Therefore, if an individual's decision making is influenced by unconscious mechanisms and creating viable explanations based on external and internal cues, is it useful to assess

competency through self-assessment? This research further explores participant's experiences with self-assessment.

2   *Teaching self-assessment skills*

The belief that self-assessment skills are teachable and will result in more competent practitioners has not yet been tested (Redwood et al., 2010). Motycka et al. (2010), Eva and Regehr (2005) and Asadoorian and Batty (2005) all highlight the importance of external feedback when making self-assessment decisions.

Eva and Regehr (2005) suggest that flaws in reasoning are reinforced by lack of external corrective feedback. With the current project, participants are required to undertake a learning module on how to complete the shpaclinCAT self-assessment before completing the self-assessment. By completing this module, in addition to the training provided to the participants throughout their undergraduate pharmacy degrees, it was assumed by the investigators of this project, that the participants had received appropriate training on how to make self-assessment decisions.

E   *Exploring participant's experiences with self-assessments*

Despite acknowledgment that a participant's perceptions of an assessment process influence their motivation to complete the assessment, time invested into the assessment and the use of information from the assessment; there is limited research available regarding participant's experiences with self-assessments of competency (Altahawi et al., 2012). The SHPA has released testimonials on their website (http://cpd.shpa.org.au/shpaclinCAT) from previous pharmacists who have completed the shpaclinCAT self-assessment, indicating that "completing the shpaclinCAT self-assessment tool helps to identify areas needing improvement and helps guide professional development activities". As the testimonials appear on the developer's website, there is a vested interest to show the tool in a favourable light. It is therefore important to gather independent information regarding the use of this tool within the practice environment (as is the intention of this current research). Altahawi et al. (2012) highlight the importance of eliciting student perspectives when evaluating an assessment program. They suggest that the theoretical benefits of a program may not translate to practical benefits (Altahawi et al., 2012).

F   *The current research*

The above discussions highlight the complexities surrounding the use of self-assessment to direct professional development. Despite the intentions of the designers of self-assessment tools of competency, the belief that self-assessments can guide practitioners to identify gaps in knowledge and skills which can then be rectified through self-directed learning, may be a simplistic view and an overestimation of what self-assessments can achieve. Self-assessments of competency may be appealing as a way to guide professional development in a resource restricted environment but as suggested by Eva and Regehr (2005) more work needs to be undertaken regarding how practitioners make and use self-assessment decisions.

The current research is focused on exploring how clinical pharmacists might use the shpaclinCAT self-assessment tool to direct their professional development.

III   RESEARCH AIMS

The primary aim of this research is to explore how clinical pharmacists might use the information gained from undertaking a self-assessment (using the shpaclinCAT tool) to direct their own professional development.

Secondary aims include:

- To identify any barriers or challenges experienced by clinical pharmacists when using the shpaclinCAT self-assessment tool to direct their professional development.

- To explore whether experienced and newly registered pharmacists differ in their approaches to the self-assessment task.

- To derive recommendations for revisions to the tool which are feasible in future education programs.

IV METHOD

A *Researcher reflexivity*

Researcher reflexivity refers to the influence of the researcher on the research and may be a source of inherent bias of qualitative research (Piantanida & Garman, 1999). Piantanida and Garman (1999) suggest that qualitative researchers should reflect on aspects of their background, assumptions, preconceptions and attitudes that may influence their research. These aspects can then be declared and addressed during the conduct of the research and when preparing research reports (Piantanida & Garman, 1999).

In the context of this current research project, the following aspects of the researcher's background, assumptions, preconceptions and attitudes may have influenced this research.

1 *Seniority within the department*

The Principal Associate Investigator/ interviewer is a Senior pharmacist working within the Pharmacy Department. During the course of this project this researcher was required to interview more junior pharmacists working within the department which may have created an unequal power relationship. To limit the effect of this the researcher was not involved in the assessment of the participants, the interview related to processes and not the self-assessment itself and all information gained through the interviews was de-identified.

2 *Previous experience with the shpaclinCAT self-assessment*

The researcher's own experience with the shpaclinCAT self-assessment led to preconceived opinions regarding the usefulness of the shpaclinCAT self-assessment as a way to direct professional development.

During the design, interview process, data analysis and interpretation an effort was made to limit the impact of preconceived opinions about this tool.

B *Study design and study population*

The use of a qualitative study design using semi-structured interviews was chosen for this research to explore how clinical pharmacists use the tool. This approach of investigating the perceptions of participants using semi-structured interviews has been adopted from work by Altahawi et al. (2012).

 The use of two cohorts of pharmacists (newly registered and experienced) was chosen to investigate whether the level of experience influenced how the shpaclinCAT self-assessment was undertaken and used (refer to Table 1 for the Participant Demographic).

The five month time-period for undertaking this project was dictated by the University semester timeframe, as this project was a student independent project for the Master of Health Professional Education.

Table 1.
Participant Demographic Data

Participant number	Experience Level	Consent to Audio-taping obtained	Completed the SHPA training on how to undertake the self-assessment	Completed Peer review prior to undertaking the interview	Comments
1	Experienced Pharmacist	Yes	Yes	Yes	
2	Experienced Pharmacist	Yes	Yes	Yes	
3	Experienced Pharmacist	Yes	Yes	Yes	Return to clinical practice
4	Newly Registered Pharmacist	Yes	Yes	Yes	
5	Newly Registered Pharmacist	Yes	Yes	No	
6	Newly Registered Pharmacist	Yes	Yes	Yes	

C   *Study setting and educational practice area*

The Monash Health Pharmacy Department was chosen as the study setting for this project as the department has implemented the use of the shpaclinCAT self-assessment and the investigators are employees of this department.

D   *Sample size*

This study involved the recruitment of three newly registered and three experienced clinical pharmacists. Recruitment was limited to 6 participants due to the time restrictions imposed by the University Semester timeframe. The pharmacy department employees over 200 clinical pharmacists across the hospital network. Due to the small sample size this work is considered a pilot study.

E   *Sampling strategy*

A convenience sampling strategy was employed in this study. All experienced and newly registered pharmacists within the Monash Health Pharmacy Department were sent an invitation to participate in this study via the staff email list. The first three pharmacists from each cohort, who expressed interest and signed the informed consent, were selected to take part in the study. It is acknowledged that by selecting pharmacists who are keen to participate in the research, their views may not be representative of the entire department.

F   *Data source and data collection procedures*

Once consent was obtained, each participant was invited to a 20-minute interview which was audio-taped.

The use of a semi-structured interview approach was chosen to allow participants to respond to questions in their own words (Turner, 2010). A two-way conversational dialogue was established between the interviewer and the participant during the interviews to encourage trustworthy responses (Tavakol & Sanders, 2014).

The interviews were based on (1) exploring the process of using information gained from the self-assessment to construct a professional development plan and direct professional development and (2) exploring the participant's experience. The interview schedule is shown in Appendix A. Following a semi-structured interview approach, each interview differed slightly in terms of the order and the coverage of the topics depending on the participant's responses.

G Data management and analysis

Taped interviews were transcribed by an external company (Note Taking Solutions) to ensure accuracy of the transcript. Any data relating to the study was kept confidential and will be destroyed as per the institutional policy of Monash Health.

The method of constant comparison (Glaser & Strauss, 1967) was used to analyse the data as the new data obtained from each interview, was compared to the old data for similarities and differences in order to generate themes. The stepwise approach of thematic analysis suggested by Braun and Clarke (2006) was also utilised. The interviewer read each of the transcripts from the interviews and coded them based on common concepts, topics or views. Coded data items were then grouped into data categories to identify emerging patterns, themes, any contrasts or irregularities (Braun & Clarke, 2006). This was done to ensure that the categories generated reflected the data and allowed the investigators to identify and refine emerging themes. Themes revealed by content analysis of the interviews were related back to established theories such as adult learning theory (Knowles et al., 2012), to provide context to the findings. The findings were then used to generate recommendations regarding the future use of this tool.

V FINDINGS

The participant interviews for this research contained both closed and open questions (Interview Schedule shown in Appendix A). The closed questions were designed to obtain a quick response from the participants which could then be elaborated through open questions (Turner, 2010). This section provides a summary of the key project findings using illustrative quotes from the interviews. For the full participant transcripts please refer to Appendix B of this manuscript.

A Section 1: Responses to the closed interview questions

The responses to the closed questions during the interviews are shown in Table 4. They indicate that the participants did draw on the information obtained from completing the self-assessment to help complete their professional development plans. However, the responses to the questions relating to "whether the self-assessment had helped the participants" and "directed them as to areas they needed help with" varied between the more experienced and less experienced pharmacists. Experienced pharmacists 1 and 2 did not believe that the self-assessment had helped them or had guided them as to the areas they needed help with. The newly registered pharmacists 4-6 and pharmacist 3 (who was returning to clinical practice) indicated that the self-assessment had helped them and guided them.

Table 2.
Participants' responses to the question "Did you draw on information obtained from completing the self-assessment to help construct your Professional Development Plan?"

Participant number	Experience Level	Response
1	Experienced Pharmacist	"A little bit"
2	Experienced Pharmacist	"I did draw on that"
3	Experienced Pharmacist	"Yes, I did."
4	Newly Registered Pharmacist	"Yes"
5	Newly Registered Pharmacist	"Yes"

6	Newly Registered Pharmacist	"Yes"

Table 3.
Participants' responses to the question "In your opinion did doing the self-assessment help you?"

Participant number	Experience Level	Response
1	Experienced Pharmacist	"Probably not. Not overly."
2	Experienced Pharmacist	"it's a good guide, but I don't think if it would have changed the way I practice"
3	Experienced Pharmacist	"Yes, definitely"
4	Newly Registered Pharmacist	"In a way it did."
5	Newly Registered Pharmacist	"Definitely"
6	Newly Registered Pharmacist	"Yes"

Table 4.
Participants' responses to the question "Did doing the self-assessment guide you as to which areas you need help with?"

Participant number	Experience Level	Response
1	Experienced Pharmacist	"Maybe not"
2	Experienced Pharmacist	"Not really"
3	Experienced Pharmacist	"Correct"
4	Newly Registered Pharmacist	"Yeah, definitely"
5	Newly Registered Pharmacist	"Yeah"
6	Newly Registered Pharmacist	"Yes, definitely"

B   *Section 2: Responses to open interview questions*

1   *Benefits and Barriers of using this tool*

Table 5 and Table 6 outline the suggested benefits and barriers to the use of the shpaclinCAT self-assessment by participants in this study with accompanying illustrative quotes.

Table 5.
Participants' suggested benefits of using this tool

Suggested benefit	Illustrative participant quotes
Comprehensive, providing structure and direction	*Participant 5:* "It was pretty well structured. I felt it directed me quite well"
Standardising Practice	*Participant 2:* "it's a good tool in terms of standardising the scope of what we so-called clinical pharmacy". *Participant 4:* "It's nice to have a set guideline to what you should be doing and what you should be covering".
Highlighting areas needing improvement, not performed or new avenues	*Participant 3: "*Areas where I felt it was not consistently would be the areas that I would address, and then that helped summarise the areas where I felt I was lacking and able to improve". Participant 4: "It definitely helped identify some weaker spots". *Participant 5: "*It helped highlight particular points I thought I could self-improve". *Participant 6: "*it was good in setting the standard......It provides a list of things that you may not have thought of".
Reminder of things to be done	*Participant 2:* "I think it definitely does help in terms of reminding you".

| Encourages self-confidence | Participant 5: "It also filled a bit more self-confidence in me as to how I was going". |

Table 6.
Participants' suggested barriers with using this tool

Suggested barrier	Illustrative participant quotes
General/procedural nature of the tool/relevancy to specialised practitioners	Participant 1: "was quite a general pharmacy practice assessment, whereas I feel a bit like my professional development plan would be more tailored to a specialised area". Participant 2: "A lot of the things were very routine things that I would normally do anyway..... I found the tool to be very procedural".
Restricted scope of assessment	Participant 2: "Does it mean that if you can do all the process properly then it makes you a competent clinical pharmacist, or is it more than that?"
Inclusion of activities not deemed applicable to pharmacy	Participant 1: "I feel like some parts of the clinCAT were probably not as relevant to my practice, such as the discussing with patients their diagnosis". Participant 4: "Some parts weren't really relevant, so it really took away some of the more useful parts of it"
Not addressing the dynamic healthcare environment	Participant 2: "You won't do all of that routinely, and won't apply to every patient".
Difficulty understanding terminology	Participant 2: "Some of the wording needs to be clearly defined". "I wasn't really sure exactly what the question wants, so I may interpret it one way, whether another pharmacist might interpret it differently".
Difficulties assessing competency	Participant 4: "Sometimes I found that it was a little bit hard to choose between usually or consistently as personally, there might be one point that I don't think I do it consistently".
Length/ exhaustive nature/time to complete	Participant 1: "Time was a big factor. It did take about 90 minutes to complete.... I think that's the major barrier." Participant 4: "It was very, very thorough, so it did take quite some time.... Of course, I've known people to whiz through it and just do it half-heartedly and it took about five minutes".

2   *Using the shpaclinCAT self-assessment tool to direct professional development*

   (a) Using the self-assessment to develop a professional development plan

   Although all participants stated that they had used the self-assessment to help develop their professional development plan (Table 2), Participant 1 later admitted that "I don't know that the ClinCAT itself helped with the development of the plan".

   Experienced pharmacists, Participants 1 and 2, had difficulty drawing from the self-assessment to develop the plan, as both participants, believed that they were performing the tasks consistently and therefore did not have any gaps in knowledge and skills to draw on:

   *"*A lot of the things were very routine things that I would normally do anyway" (Participant 2).

   (b) The importance of external feedback when developing the plan

   Participants 5 and 6 highlighted the importance of having a peer review or external feedback when using the professional development plan to guide professional development:

   "I discussed with my assessor areas I thought that I would need a bit more improvement in" (Participant 5).

"We also had a feedback session afterwards (after the peer review), in which I got advice on areas I thought that I need to improve in and how my performance was going" (Participant 6).

(c) Lack of guidance

Participant 4 indicated that there was not appropriate guidance of how to address certain deficiencies using this tool:

"things like whether you interacted with staff ... it doesn't really tell you how to improve it, it just tells you that you're lacking in that particular area".

(d) Not using the plan to direct professional development

Participants 1 and 4 admitted that they were not using the plan they had created:

"Currently I'm not using it at all" (Participant 1).

"this particular plan I haven't really been looking at it that much" (Participant 4).

Whilst Participant 5 indicated they were using the tool to assist with day-to-day practice but not for continued professional development:

"I probably consider this more in the sense of what I personally want to be doing on a day-to-day basis, rather than what I'm specifically taking time out to do as my CPD".

C   Perceived impact on practice

The experienced pharmacists (Participants 1 and 2) did not believe that the tool had had an impact as they believed that they already performed the general activities outlined within the assessment:

"With my day-to-day work at the moment, I don't think it has changed very much" (Participant 1).

"I don't think if it would have changed the way I practice" (Participant 2).

Participant 3, who was returning to practice in a clinical area, found that completing the tool and a peer review had "rejuvenated and reawakened" her interest in the clinical area.

Participant 4 stated that "It already has (changed my practice). I noticed a big difference, especially right after it. I noticed I was asking more, and asking more thoroughly, so it was definitely helpful in that circumstance".

Participants 5 and 6 stated that it had provided direction to them:

"it's given me a clearer direction" (Participant 5).

"its highlighted areas I think I could improve in and I drew a lot of advice from recommendations" (Participant 6)

D   Participant's suggestions for improvements of the tool

1   Acknowledgement of specialisation and differences in practice

Participant 1 suggested that a set of tools could be developed which target specialised areas of practice:

"if you had one that was tailored to your actual area of practice that would be more useful".

2   Providing more guidance or direction for the user

Both Participant 3 and Participant 4 suggested ways of providing more guidance to the user:

"a two or three sentence summary at the beginning of the self-assessment might be a good idea, just because people might feel quite daunted" (Participant 3).

"putting it (the Professional Development plan) at the front of the masses of paper that you have...as opposed to something that's jammed in the middle of the book... because I missed that at first" (Participant 4).

3   *Target use to less experienced pharmacists*

Participants 1 and 2 suggested that the tool would be most useful for less experienced pharmacists:

"I feel it's probably most useful for more inexperienced pharmacists or pharmacists who are new to the organization so that they know what the baseline standard is for pharmacy practice in our organization" (Participant 1).

"I really think that it would definitely add value to a junior pharmacist." (Participant 2)

E   *Limitations of using the tool*

Participant 2 indicated limitations of the tool such as:

- recall bias

  "I personally think that there is certainly an element of recall bias"

- assessing intention versus what participants actually do –

  "whether the question assesses your intention, or the question actually assesses whether you're actually doing that or not".

- Hawthorn effect:

  "I think when you do it with a peer review....it will definitely introduce some degree of bias. I think people will tend to mark themselves better than they would normally do".

VI   DISCUSSION

The primary aim of this research project was to explore how clinical pharmacists might use the information gained from undertaking the shpaclinCAT self-assessment to direct their professional development.

This section begins with a discussion of the main themes drawn from the thematic analysis of the participant interviews. The current findings of this project are then applied to the model of an effective self-assessment system to further explain the findings. This section ends with recommendations for the future use of this tool, limitations of the current project and a discussion on suggestions to overcome potential difficulties and limitations in creating competency based self-assessment systems to direct professional development.

A   *Main themes identified through thematic analysis*

1   *Differences in the learning needs of novices and experts*

In considering a possible explanation for the differences in opinion of the participants in terms of the helpfulness of the self-assessment, the general and procedural nature of the tool (as described by Participants 1 and 2) and models of skill development are considered.

Dreyfus and Dreyfus (1980) proposed a five stage model of the mental activities involved in directed skill acquisition. This work was then adapted by Benner (2001) who described the development from novice to expert in clinical nursing practice.

In the model proposed by Dreyfus and Dreyfus (1980) individuals move through stages from novice to expert when acquiring skills. Novices follow rules whilst experts work intuitively on problems without needing principles (Dreyfus & Dreyfys, 1980). The work by Dreyfus and Dreyfus (1980) and Benner (2001) highlights the different learning needs of individuals as they gain experience. In relation to the current project, this may help to explain why newly registered or

pharmacists returning to clinical practice may gain more benefit from an assessment tool that extensively outlines fundamental general procedures and competencies (Benner, 2001). Experienced pharmacists may not gain benefit from a general tool as they believe that they have already obtained those skills (McMillan & Hearn 2008). The lack of perceived relevance of this tool for the experienced pharmacists 1 and 2 may have affected their motivation to complete this tool. Other factors affecting motivation will be considered further in this section.

Participants 3-6 all suggested that the self-assessment had highlighted areas needing improvement or new avenues of practice. This finding may be explained by constructivism described by McMillan and Hearn (2008), whereby the participant's attention has been drawn to activities they don't often or don't perform which are then integrated into their existing knowledge.

2   Can clinical competency be assessed by just assessing general procedural skills?

The shpaclinCAT was designed as a way to assess clinically competency and to help standardise practice. All clinical pharmacists from newly registered to experienced pharmacists were intended to complete this assessment task. The fundamental problem with a 'one size fits all approach' relates to the differences between novices and experts as discussed above. The other difficulty is capturing and assessing clinical skills such as clinical reasoning using a self-assessment tool. As suggested by Participant 2 during the interview, the general procedural nature of the tool may help with standardising procedures, but it does not fully assess clinical competencies as it does not consider clinical reasoning.

Participant 2 also highlighted a concern that the tool did not capture the dynamic nature of the health care environment. In making this comment the investigators suggest that the participant was referring to the lack of sensitivity of the tool to acknowledge adaptation of techniques and procedures undertaken by more experienced pharmacists.

A potential solution to this problem is to combine procedural based assessments with peer reviews within the clinical environment or assessments targeted at clinical reasoning. One example of assessments targeted at clinical reasoning skills is the Board Certification Examination in Oncology Pharmacy conducted by the Board of Specialties in America. This exam is a specialist exam which consists of scenarios which require the application of clinical judgment and reasoning. These scenarios are designed to explore a practitioner's ability to adapt their decision making to the clinical environment around them. This again relates back to the difference in skills displayed by novices and experts.

3   Factors affecting decision making

(a) Motivation

The comprehensive nature of the shpaclinCAT self-assessment has led to the document being 54 pages in length. All participants commented on the length of the document, with Participants 2, 4 and 5 suggesting that due to its length their motivation to complete the task waivered towards the middle. The potential consequence of this is that the participants were no longer completing the tool as designed.

Participant motivation is an essential component of an effective self-assessment system as outlined by Motycka et al. (2010) and Asadoorian and Batty (2005). By losing this motivation, the participants may have become less involved in the self-assessment process, reducing the value of the self-assessment. Suggestions provided by the participants interviewed to reduce the length of the self-assessment included the omission of less relevant or repeated activities and to base the assessment on the competency sub-headings.

(b) Difficulties with comprehension and using the tool to assess competencies

Participant 2 (who had English as a second language) outlined that he had difficulty interpreting or understanding some of the terminology used within the tool. Although English comprehension is a core competency for initial registration, the use of 'jargon' or complex terms without

appropriate definitions could lead to misinterpretation and confusion, which would reduce the internal validity of the tool. This may be reduced in future versions of the tool by having pharmacists from different backgrounds complete the tool and provide feedback to the developers regarding any terms needing clarification. A glossary with definitions of terms may also help with this.

Participant 4 highlighted an issue regarding the ability to self-rate a specific competency when there are a number of activities listed. Although the SHPA provides a module on how to self-assess using the tool, more emphasis may be needed on how to deal with these issues.

(c) Recall Bias

Recall bias refers to the potential inaccuracies and incompleteness of recollections of participants (Grimes & Schulz, 2002). With the shpaclinCAT self-assessment, participants are required to reflect on their clinical practice when making decisions regarding their competency. As suggested by Participant 2, reflection-on-action is prone to recall bias (Eva & Regehr, 2005; Grimes & Schulz, 2002). This effect may be reduced by completing assessments whilst engaged in the clinical environment (reflecting-in-action); however, this may not be practical and could lead to distractions and possible errors occurring. Another way to minimise recall bias is by utilising external feedback to make assessment decisions (Motycka et al., 2010). Recall bias is also considered a possible limitation of this research project as during the interviews the participants were required to reflect on their experience with the self-assessment task when answering questions.

(d) Hawthorn effect

The Hawthorn effect refers to the alternation of a person's behaviour due to awareness of them being observed (Grimes & Schulz, 2002). As suggested by Participant 2, when completing the self-assessment task, participants may rate themselves higher to be seen as more competent in front of a peer reviewer. Although strategies were incorporated into the design of this project to limit the Hawthorn Effect, this is a potential limitation of this current project.

(e) Intention to do versus actually doing

Participant 2 also highlighted the difference between assessing intention versus assessing what participants actually do. As outlined by social psychologists such as Bandura (1994) participants may adopt a self-preservation approach to decision making and lack a realistic self-perception without external feedback. The use of a peer review to complement the self-assessment is designed to provide the participant with a more realistic self-perception (SHPA, 2015).

B   Using the shpaclinCAT self-assessment to direct professional development and its impact on practice

Although all participants stated that they had used the self-assessment to help develop their professional development plan, this had not been the case. As previously mentioned for experienced pharmacists the difficulty related to the pharmacists believing that they were already performing the tasks outlined in the tool consistently and therefore did not have any gaps in knowledge and skills to draw on. This again highlights the difficulty of designing a self-assessment applicable to all experience levels.

The findings also suggested difficulty with knowing how to improve professional skills based on the self-assessment alone. A further limitation to the improvement of "professional skills" is the availability of continuing education targeted at these areas. This is being addressed by the SHPA through the provision of workshops on communication skills, assertiveness and leadership.

Most participants were also not using the professional development plan to guide their professional development. This finding highlights a potential problem with the constructive alignment between the self-assessment, development of a professional development plan and then using this plan to guide professional development; which was the intention of this tool. Both experienced and newly registered pharmacists had difficulty applying the professional development plan.

As suggested by Participant 1, the reason for this may relate to the relevancy of the plan to individual participants and the participant's motivation to carry out the plan. Experienced pharmacists such as Participant 1 and newly registered pharmacist Participant 5 would prefer to undertake continuing education in an area of interest to them such as on a clinical topic. This point highlights the importance of internal motivation and stakeholder involvement in the assessment process. Future versions of the tool may consider how to align the self-assessment and professional development plan with activities the pharmacists are interested in developing as part of their continuing education.

With respect to the impact completing the tool had on practice, the newly registered and return to practice pharmacists found the tool provided benefit, whilst the experienced pharmacists did not find benefit. These findings are consistent with previous discussions regarding the general procedural nature of the assessment tool and its benefit for less experienced pharmacists.

C   *Application of Asadoorian and Batty's (2005) model of an effective self-assessment system for directing professional development*

It was found during this project that the benefit of the self-assessment system was not shared by all participants and that the tool may not be directing professional development in practice.

To understand why this may have occurred, the investigators refer to the model produced by Asadoorian and Batty (2005) outlining the components of an effective self-assessment system:

- *Component 1* deals with the individual prerequisite competencies such as internal and external motivation to complete the assessment process. With the shpaclinCAT, external motivation comes from the requirement by the department to complete the self-assessment. As considered above internal motivation to complete the assessment may have been lost through the length of the document, difficulty in interpreting and assessing competencies and the perceived relevance of both the self-assessment and the professional development plan.

- *Component 2* refers to a defined process showing what the individual needs to do. The SHPA provides education regarding how to do the self-assessment however, some participants struggled with how to complete the self-assessment, make self-assessment decisions and how to use their professional development plan to guide their professional education.

- *Component 3* refers to reflection, evaluation and application. In terms of reflection and evaluation the limitation here is access to mental processes as outlined by the metacognitive and social learning theories discussed in the literature review of this report. As suggested by Participant 2, it may not be clear whether a participant is assessing the intention to do an activity or what they actually do.

  An important determinant of the application of the professional development plan to directing professional development which was outlined through the interviews is the perceived relevance and importance of the plan to the participant. As suggested by the findings, if the participant could not see the benefit of the plan, they did not act on it. To rectify this problem feedback and refinement of the tool and its application may to be considered.

- *Component 4* refers to the tool itself. Due to the general and procedural nature of the tool, the less experienced pharmacists found the tool beneficial in providing direction. The more

experienced pharmacists found it too general to be applied to specialised practice. This again relates back to the differences between novice and expert practitioners.

D   *Recommendations for the future use of this tool*

Findings from this project suggest that the general procedural nature of this assessment tool may provide most benefit to newly registered pharmacists or pharmacists returning to clinical practice. More experienced pharmacists may instead benefit from a different form of self-assessment which is more specialised in nature. Knowles et al. (2012) highlights the importance of considering an individual's prior learning and the work of Dreyfus and Dreyfus (1980) and Benner (2001) highlight that a continuum exists between novices and experts during skill development. The differences between the learning needs of pharmacists of different experience levels are an aspect suggested to be considered and incorporated into future versions of this tool.

Some of the difficulties highlighted in the use of the self-assessment tool such as the length, relevancy, confusion with terminology and difficulties in assessing competencies, are design features that may need to be refined in future adaptations of this tool to improve participant usability.

E   *Limitations of the current project*

A limitation of the current project relates to the sample size and the method of participant selection. The timeframe to conduct this project was restricted to five months in line with a University Semester as this project is part of one of the investigator's Master of Health Professional Education Degree. This short time frame led to a restriction on the number of participants interviewed and selection of the first three experienced clinical pharmacists and newly registered pharmacists who expressed interest. It is acknowledged that these six pharmacists may not represent the views of the entire department or the views of other pharmacists at different hospitals but it was considered that the findings generated from the interviews could be used as an initial way to evaluate the use of the shpaclinCAT self-assessment to direct professional development.

A further limitation of this current project relates to the effect that the peer review has had on the findings. Initially this project was designed to interview participants before they had undertaken a peer review, in order to limit the effect of the peer review on the construction of the professional development plan. Unfortunately, due to time restrictions and a delay in ethics review of this project, it was decided to recruit participants regardless of whether they had undergone a peer review. This was deemed acceptable by investigators, as in practice participants would construct their professional development plans using information from both self-assessments and peer reviews. It was however acknowledged that participants may not have been able to separate their experiences from undertaking the self-assessment from those gathered during the peer review.

A final limitation relates to the Hawthorn effect and the ability for participants to honestly answer the questions posed during the interviews. All efforts were made to encourage honesty in responses by ensuring that the questions posed during interviews were not leading and that all information was treated anonymously. However, as the interviewer was a colleague of the participants, the potential effect of this on the participant's responses needs to be acknowledged.

F   *Suggestions to overcome the potential difficulties and limitations in creating competency based self-assessment systems to direct professional development*

The current project highlights some potential difficulties and limitations in creating a competency based self-assessment system to direct professional development. The importance of gathering honest participant feedback when evaluating an assessment tool and its impact in the practice environment was also realised.

In addition to considering the work undertaken by Motycka et al. (2010) and Asadoorian and Batty (2005) the following concepts were highlighted from the interviews as being important when designing a system to self-assess clinical competencies and then to direct professional development:

1. Content: it is important to ensure that the content of the tool is relevant and tailored to the experience level of the participants if the tool is to be used to direct professional development.
2. Acknowledge the limitations of self-assessments: self-assessments are designed to promote self-reflection however, it is important to acknowledge the limitations of self-assessments and the importance of utilising other forms of assessment in addition to self-assessments.
3. If an assessment is to direct professional development, it is important that it:
    a. highlights areas needing improvement and provides guidance regarding an achievable way to improve in these areas
    b. be meaningful and relevant to the participant to motivate actions to be taken to improve areas highlighted needing improvement.

VII   CONCLUSION

The current research project explored how clinical pharmacists might use information gained from undertaking the shpaclinCAT self-assessment to direct their professional development by interviewing six clinical pharmacists. The findings indicate that newly registered or return to practice pharmacists may benefit more from using the shpaclinCAT self-assessment than experienced pharmacists due to the tool's general procedural nature.

Barriers and challenges experienced by participants to using the self-assessment to direct professional development included the tool's length, relevancy and application of the professional development plan. Suggested revisions of this tool include refining its content and improving its relevance by utilising feedback from participants. It is recommended to restrict the current tool's use to less experienced clinical pharmacists who appear to gain the most benefit from using it. An alternative assessment system is suggested for more experienced pharmacists that acknowledges the development of clinical reasoning skills and considers practice specialisation. Despite the current study indicating difficulties with using this tool, continued refinements of the current tool and targeting its use may maximise its impact in the future.

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APPENDIX A. INTERVIEW SCHEDULE

Concept 1: Exploring the process of using information gained from the self-assessment to construct a professional development plan and direct professional development

1. Go through with me the process of how you completed your Professional Development Plans.
2. Did you draw on information obtained from completing the self-assessment to help construct your Professional Development Plan?
3. What are you doing with the information you gained from doing the shpaclinCAT self-assessment?
4. How will you use your completed Professional Development Plan?
5. Were there any barriers or challenges with doing the self-assessment to guide your professional development? If so what were they?

Concept 2: Exploring the participant's experience

6. In your opinion did doing the self assessment help you? Please explain further your response.
7. Did doing the self assessment guide you as to which areas you need help with? Please explain further.
8. How would you describe using the tool has impacted on your professional development or clinical skills?

Participant 1

INTRODUCTION

COULD YOU PLEASE GO THROUGH THE PROCESS OF HOW YOU COMPLETED YOUR PROFESSIONAL DEVELOPMENT PLAN?

During the ClinCAT tool, once I completed that I went back and saw which bits could use improvement. I suppose that's how I developed the plan.

DID YOU DRAW ON THE INFORMATION GAINED FROM THE SELF-ASSESSMENT TO CONSTRUCT YOUR PROFESSIONAL DEVELOPMENT PLAN?

A little bit. I felt that with the ClinCAT assessment, I thought that was quite a general pharmacy practice assessment, whereas I feel a bit like my professional development plan would be more tailored to a specialised area that I'm working in, which I suppose the ClinCAT doesn't provide you with that. It only goes through the processes of what would be involved, so I'm not sure how relevant the actual ClinCAT was for that.

WITH YOUR PROFESSIONAL DEVELOPMENT PLAN THAT YOU PUT TOGETHER, HOW ARE YOU USING THAT PLAN?

Currently I'm not using it at all, but I suppose it just put everything down on paper what sort of clinical areas I wanted to improve upon. Currently not doing anything with it.

WERE THERE BARRIERS OR CHALLENGES WITH DOING THE SELF-ASSESSMENT?

Time was a big factor. It did take about 90 minutes to complete the ClinCAT and to read through all of the different sections. I think that's the major barrier.

HOW COULD YOU USE THE SELF-ASSESSMENT IN THE FUTURE?

I feel it's probably most useful for more inexperienced pharmacists, or pharmacists who are new to the organisation so that they know what the baseline standard is for pharmacy practice in our organisation.

IN YOUR OPINION, DID DOING THE ASSESSMENT HELP YOU?

Probably not. Not overly. I suppose it just reassures you that you're doing the right thing in everyday practice.

WHAT SORT OF ASPECTS DO YOU THINK DIDN'T HELP YOU WITH IT?

I feel like some parts of the ClinCAT were probably not as relevant to my practice, such as the discussing with patients their diagnosis, which I feel a little bit like it might not be for a pharmacist to do.

DID DOING THE SELF-ASSESSMENT GUIDE YOU AS TO WHICH AREAS YOU NEEDED HELP WITH?

Maybe not.

WHY?

It felt like it was very procedural, the ClinCAT assessment, so if you're already doing all those processes I'm not sure the assessment provides you much more. I feel like if you had one that was tailored to your actual area of practice that would be more useful to know where your gaps in knowledge are.

HOW WOULD YOU DESCRIBE USING THE TOOL HAS IMPACTED ON YOUR PROFESSIONAL DEVELOPMENT OR CLINICAL SKILLS?

With my day-to-day work at the moment, I don't think it has changed very much.

WHAT ABOUT YOUR PROFESSIONAL DEVELOPMENT? DID GOING THROUGH THE CLINCAT SELF-ASSESSMENT AND THEN CREATING YOUR PROFESSIONAL DEVELOPMENT PLAN HELP YOU IN TERMS OF STRUCTURING YOUR PROFESSIONAL DEVELOPMENT?

I think actually developing a plan is quite useful. It is important to have something written down on paper so you know what you're working towards, even if you're not doing it right at the moment. I think developing a professional development plan is important. I don't know that the ClinCAT itself helped with the development of the plan.

ANYTHING ELSE YOU WOULD LIKE TO SAY?

No.

THANK YOU FOR YOUR TIME.

END OF DISCUSSION.

Participant 2

INTRODUCTION

PLEASE GO THROUGH THE PROCESS OF HOW YOU COMPLETED YOUR PROFESSIONAL DEVELOPMENT PLAN.

First, I was given ample amount of time to go through the self-assessment tool, went through all the questions, and completed all that. Then I went over all of that. I actually went up on the ward with another clinical pharmacist who was the peer review, and we went through a few different scenarios, so I guess whatever happened during that few hours that we were on the ward. We didn't get to see every scenario that was in this tool, but we did as much as we could. Then we had a sitting together and we went through everything, and then I developed the professional development plan after that.

DID YOU DRAW ON THE INFORMATION OBTAINED FROM COMPLETING THE SELF-ASSESSMENT TO HELP CONSTRUCT YOUR PROFESSIONAL DEVELOPMENT PLAN?

Yeah, of course I did draw on that, but in my view I don't think it really added anything to – I really think that it would definitely add value to a junior pharmacist, but in my view I think it's something that I've always done, so there was nothing really dramatically new, or things that I realised that actually, this is an area that I've never paid attention or I never routinely did it. A lot of the things were very routine things that I would normally do anyway, but of course, given the circumstances, I will make a professional decision on a case-by-case base.

WHAT HAVE YOU DONE WITH THE INFORMATION THAT YOU GAINED FROM DOING THE SELF-ASSESSMENT?

Well, just to see in what way it can improve the way I approach things in the future, and whether I would do things differently, and with all honesty I don't think it really added much. I don't think it really changed the way I would do things, because I think I've always done those things. I didn't really find big gaps in my professional conduct, or the way I've always done my clinical work.

DO YOU THINK THE SELF-ASSESSMENT ENABLED YOU TO DO YOUR PROFESSIONAL DEVELOPMENT PLAN?

I think it definitely does help in terms of reminding you. It's a good reminder. You think actually, yeah, I'd never thought that, but those things are very circumstantial. You won't do all of that routinely, and won't apply to every patient, so you would assess the patient and then you will use your clinical knowledge but also your experience, and you'll have a different approach depending on the patient and the situation. It's not a one-size-fits-all approach, but it definitely does give you good guidance.

DO YOU THINK THERE ARE ANY BARRIERS OR CHALLENGES WITH DOING THE SELF-ASSESSMENT?

I guess one of the biggest barriers is its very long, so it does take a lot of time to do it. To be honest with you, towards the end of it, even in the middle of it I wasn't – at the start I read things and did them properly, if that's the right word, but towards the middle section and especially towards the end, you lose interest and you try to almost skim through things. I think that's probably one of the points.

WHAT ABOUT IN THE USE OF THE ACTUAL SELF-ASSESSMENT TO GUIDE YOUR PROFESSIONAL DEVELOPMENT? DO YOU THINK THERE WERE ANY BARRIERS OR CHALLENGES TO THAT?

One of the other things is that you can't assess everything. When you do it as a self-assessment tool, you know whether you do those things or not. However, on the day that you actually do it, you will not get to see every one of those scenarios, so it will not be really assessed. In fact, a lot of those things will not be assessed. I think that's one of the barriers. However, as a self-assessment, you know those areas whether you do it or not and how well you do it. Also one of the things that, at least to me, wasn't very clear is that in terms of the designing of the tool, I'm not sure whether some of the questions or the wording have been very well validated in terms of – I wasn't really sure exactly what the question wants, so I may interpret it one way, whether another pharmacist might interpret it differently. That was another thing.

DO YOU THINK THAT DOING THE SELF-ASSESSMENT HELPED YOU?

In what way?

IN DOING THE ACTUAL ASSESSMENT WHERE YOU WERE LOOKING AT THE ACTIVITIES AND DEFINING HOW COMPETENT YOU WERE AT THOSE PARTICULAR ACTIVITIES, DO YOU THINK THAT EXERCISE ACTUALLY HELPED YOU?

You could use that as a benchmark. You could say during my practice do I actually do these things or not? Again, I emphasise that it's a good guide, but I don't think if it would have changed the way I practice. I found the tool to be very procedural. It's all about process. Another aspect of it that pops up from time to time is about clinical pharmacy, and that aspect of it wasn't really very clear to me, whether being a competent clinical pharmacist – what does that really mean? Does it mean that if you can do all the process properly then it makes you a competent clinical pharmacist, or is it more than that? I'm not sure whether it's a good tool in terms of assessing it, but again it's a very good guide in terms of detailing the process that a clinical pharmacist should follow. However, I'm not sure whether it actually can tell you at the end of it whether you are a very good competent clinical pharmacist. One of the other things that I found a bit confusing with the tool is that when the questions are asked, whether the question assesses your intention, or the question actually assesses whether you're actually doing that or not. For example, one of the questions I think says do you always ensure a supply of medication available on the ward. If you ask me as a pharmacist, my immediate answer would be that of course I consistently will make sure that I would do that. However, whether you are going to do that consistently, you are actually performing that consistently, it's a completely different thing. I think there is a bit of a gap there whether, what is it that this tool is trying to establish? Is it the intention of the pharmacist, whether the pharmacist of course always endeavours to do that, or whether actually the pharmacist does perform to that level? That was an aspect of the tool that came up often. That I wasn't very sure about.

DO YOU THINK DOING THE SELF-ASSESSMENT GUIDED YOU IN WHICH AREAS YOU NEEDED HELP WITH?

Not really, apart from the fact that I think I said that, for example, those sort of questions, and there were other questions where some of the terminologies, probably the people who have developed the tool, those terminologies are probably something that they may use all the time, and it's very clearly defined to them. However, particularly for a junior pharmacist, I don't think if they have a clear definition of those terminologies. I think I see a lot of those sort of terminologies

popping up here and there a lot in this tool, so I'm not sure whether this tool has been validated in terms of its content, but that's something that I guess I did need clarification.

HOW WOULD YOU DESCRIBE USING THE SELF-ASSESSMENT HAS IMPACTED ON YOUR PROFESSIONAL DEVELOPMENT OR CLINICAL SKILLS?

Personally on mine I would say very little, but I can't speak for everybody. I personally think that the junior pharmacists who are still learning the ins and outs of clinical pharmacy, and especially a lot about the processes, then they may find it useful. But also the other thing is that because this is about process, I guess if we are trying to aim at standardising pharmacy practice across nationwide, or at least Victoria-wide, then it's a good tool in terms of standardising the scope of what we so-called clinical pharmacy in terms of the process and the system and the procedures, so it's good. However, if we are not going to achieve that, then because it's so system and process-based, then you may perform very well in one hospital, however if you go to another hospital then you may not perform that well, because the system, process and procedures are very different. So personally I think that this is a very good guide if we're trying to standardise the procedures and the way we do things, but apart from that it's still not very clear to me when we talk about clinical pharmacy, what exactly do they mean? If they mean about the process, then yes, it's a very good guide to standardise the procedures, the system and the process, but in terms of the content and knowledge, I don't think there is a scope for this tool to evaluate that in any way.

DO YOU THINK THAT BY DOING THE SELF-ASSESSMENT, DID THAT CHANGE THE WAY THAT YOU WERE GOING TO DO ANY PROFESSIONAL DEVELOPMENT ACTIVITIES? DID IT GIVE YOU IDEAS ABOUT WHAT YOU WOULD LIKE TO DO, CONTINUE EDUCATION ON?

Not really, no.

ANYTHING ELSE?

Some of the wording needs to be clearly defined. It's very long. I personally think that there is certainly an element of recall bias. So for example if someone who has, when they're doing the assessment tool, if an exercise or something that they've recently done, then of course that would automatically introduce a bit of recall bias and they would say oh yeah, that's what I always do, so they would automatically go for I'm doing this consistently. However, if you're working on a ward where you don't do those activities very often, then your tendency would be actually, I'm not doing this consistently. But that doesn't really mean that you're not doing it consistently. I don't know, I think there will be an element of that. And I think, again, that idea of whether it's the intention or actually doing it, I think it would be interesting to see when people who do this self-assessment, you will get a lot of ticks for the consistently, to do these consistently. But also, I think when you do it with a peer review, I really think, whether we like it not, it will definitely introduce some degree of bias. I think people will tend to mark themselves better than they would normally do, because they would probably want to – it's just that Hawthorn effect, when people, no matter how many times you tell them that it's not going to reflect anything and it's completely confidential or it's just self-assessment, it doesn't mean anything. I think people would still behave differently.

END OF DISCUSSION.

Participant 3

INTRODUCTION

PLEASE GO THROUGH WITH ME THE PROCESS OF HOW YOU COMPLETED YOUR PROFESSIONAL DEVELOPMENT PLAN?

I took about 30 minutes to read through all the questions and answer to the best of my ability.

DID YOU DRAW ON INFORMATION OBTAINED FROM COMPLETING THE SELF-ASSESSMENT TO CONSTRUCT YOUR PROFESSIONAL DEVELOPMENT PLAN?

Yes, I did.

HOW DID YOU DO THAT?

Areas where I felt it was not consistently would be the areas that I would address, and then that helped summarise the areas where I felt I was lacking and able to improve.

WHAT ARE YOU DOING WITH THE INFORMATION THAT YOU GAINED FROM DOING THE SHPA SELF-ASSESSMENT?

I'm hoping to use that information to improve my practice as a clinical pharmacist, and also to actually set up study plans, case histories for my own CPD, and (inaudible) which has rejuvenated or reawakened my interest in clinical area, being an experienced pharmacist.

DID YOU THINK THERE WERE ANY BARRIERS OR CHALLENGES WITH DOING THE SELF-ASSESSMENT TO GUIDE YOUR PROFESSIONAL DEVELOPMENT?

No. Perhaps certain questions seemed to be repetitive, and that could have been constructed more succinctly, but overall I think it's a worthwhile tool and exercise, albeit even for whether the whole range of pharmacists with different experience ranges.

IN YOUR OPINION, DID DOING THE SELF-ASSESSMENT HELP YOU?

Yes, definitely. As I alluded to in the earlier questions, areas where I had marked myself as perhaps lacking or not being in the desired zone, by actually going through the questions it enabled me to see more clearly which areas I hadn't been paying enough attention to, and that needed more attention.

DOING THE SELF-ASSESSMENT, YOU'D SAY HAS HELPED YOU IDENTIFY WHICH AREAS YOU NEEDED HELP IN.

Correct, and which would hopefully then improve what I do as a work pharmacist and also for people then who follow on.

HOW WOULD YOU DESCRIBE USING THE TOOLS IMPACTED ON YOUR PROFESSIONAL DEVELOPMENT OR CLINICAL SKILLS, THE SELF-ASSESSMENT?

I think it's given me new interest, and as I said, the direction, whereas previously perhaps even though I was aware there were areas that I was lacking in but that was quite nebulous, whereas this has made it more concrete and more defined, so then there's a specific pathway that I can address. It illustrated which areas were lacking.

IS THERE ANYTHING ELSE YOU'D LIKE TO ADD ABOUT DOING THE SELF-ASSESSMENT TO HELP DRIVE YOUR PROFESSIONAL DEVELOPMENT?

Perhaps a two or three sentence summary at the beginning of the self-assessment might be a good idea, just because people might feel quite daunted when they see the reams of questions that you have to go through. I think if there was a little précis in each section, just to highlight what the purpose of the tool is, it might encourage people to have a go, whereas I think there might be a negative perception initially just looking at the reams of questions.

THANK YOU.

END OF DISCUSSION.

INTRODUCTION

COULD YOU GO THROUGH THE PROCESS OF HOW YOU COMPLETED YOUR PROFESSIONAL DEVELOPMENT PLAN?

I very methodically just worked through all the questions, had a read through and tried to match it up to what I did every day on the ward on a typical day. It was very, very thorough, so it did take quite some time. It took about an hour and a half to do it properly. Of course, I've known people to whiz through it and just do it half-heartedly and it took about five minutes, but if you actually read through every single point, it does take a very long time. I think the first page itself has quite a bit of information, so it does hit you quite hard. Otherwise the format's quite easy to read. Sometimes I found that it was a little bit hard to choose between usually or consistently as personally, there might be one point that I don't think I do it consistently but the review would say otherwise or vice versa.

DID YOU DRAW ON THE INFORMATION THAT YOU GOT OUT OF THE SELF-ASSESSMENT TO CREATE YOUR PROFESSIONAL DEVELOPMENT PLAN?

Mostly it was drawn on what I thought I lacked in what it identified, so going through, if I had something that I rarely did, then that became part of my plan, to see if it was applicable to me. If I thought it was actually useful then I would work on it a bit more. There are a few bits and pieces that weren't really relevant to when I was up on the ward, but I guess it depends on each area that you go in.

WHAT ARE YOU DOING WITH THE INFORMATION FROM DOING THE SELF-ASSESSMENT?

There have been certain bits, mainly the interviewing part, so things like doing cans and assessing technique, things like that, or little bits and pieces that you wouldn't really think of doing a reasonable time, but it was just there as a reminder just to do it for every single patient if it was applicable. So that I've integrated into my interview techniques. That I did find quite helpful. Otherwise things like whether you interacted with staff or whatnot, I didn't really draw much out of it. It was just how you interact with them and how you respond to situations, which it doesn't really tell you how to improve it, it just tells you that you're lacking in that particular area.

WHAT HAVE YOU DONE WITH THE COMPLETED PROFESSIONAL DEVELOPMENT PLAN? HOW HAVE YOU USED IT?

To be honest, this particular plan I haven't really been looking at it that much. Using the information from the plan I found it more useful than the plan itself. It was good just to list what I needed to work on, but it's not something I really refer to. It's just on the back of my mind.

WERE THERE ANY BARRIERS OR CHALLENGES TO DOING THE SELF-ASSESSMENT?

Mainly as I said before when I was choosing – if I was on the borderline I wouldn't know which one to choose, or if my personal opinion of myself was much harder than it was. Because there's so many points under each category, if there were one or two that I didn't always do but the rest of them I did every single time, then I really didn't know how to categorise that, or whether that would make a substantial difference to my work or to the review.

DID DOING THE SELF-ASSESSMENT HELP YOU?

In a way it did. It definitely helped identify some weaker spots, and I already knew that because it's my first year out. Knowledge was always going to be something to work on. Besides that it was interesting to see what else I needed to work on, because it's something that you don't really think about when you're up on a ward, because everyone does it slightly differently and you always get taught a million different ways. It's nice to have a guideline just to see if you've covered everything to make it safe.

YOU WOULD SAY THAT THE SELF-ASSESSMENT GUIDED YOU TO WHICH AREAS YOU NEEDED IMPROVEMENT?

Yeah, definitely. If there was something that I rarely did and I found that it was something personally I felt that I should have been doing, or should be doing more often, then that's definitely something I worked on.

HOW WOULD YOU DESCRIBE USING THE TOOL HAS IMPACTED ON YOUR PROFESSIONAL DEVELOPMENT OR CLINICAL SKILLS?

Overall it's been a positive experience. It's just very tedious to work through, and some parts weren't really relevant, so it really took away some of the more useful parts of it, because there was just so much to read through that by the end of it I just really wanted to get it over and done with. There might have been some parts where I read a bit quicker than others. But overall quite useful. It's nice to have a set guideline to what you should be doing and what you should be covering. It seems like it's collated into every single technique that every single pharmacist has ever used or should be looking at, so very detailed.

DO YOU THINK THERE'S ANY WAY THAT THEY COULD IMPROVE ON THE PROFESSIONAL DEVELOPMENT PLAN SO YOU'D BE MORE LIKELY TO USE IT?

Something as simple as putting it at the front of the masses of paper that you have, or having it emailed as a regular thing as opposed to something that's jammed in the middle of the book and that you kind of flick through, because I missed that at first. I had to go back and complete it because I didn't even see it. If you could do it as a regular thing, of if you had a check-up in a months' time, like a one-month goal or two-month goal or something like that, then it would make it more applicable as opposed to just filling it out and forgetting about it for another year.

ANYTHING ELSE?

In terms of how you work, it's definitely a very good tool, but in terms of where you want to go with it, it's very up to the individual about what they do. You could just leave it and not do anything with it, or you could have a good sit-through. If you did it regularly, I can see it kicking off and being much more helpful.

FROM THE POINTS THAT YOU NEEDED TO IMPROVE IN AND YOU PUT INTO YOUR PROFESSIONAL DEVELOPMENT PLAN, WHAT WERE YOU GOING TO DO WITH THAT INFORMATION?

A lot of the things that I needed to improve on, I kind of already knew, so it was just a reminder just to do it more often and to more people, and to a wider variety of people.

DO YOU THINK IT WOULD CHANGE YOUR CONTINUING EDUCATION?

It already has. I noticed a big difference, especially right after it. I noticed I was asking more, and asking more thoroughly, so it was definitely helpful in that circumstance.

END OF DISCUSSION.

Participant 5

INTRODUCTION

GO THROUGH THE PROCESS OF HOW YOU COMPLETED YOUR PROFESSIONAL DEVELOPMENT PLAN.

I essentially just went through it in order from the first question through to the end, and just did it in one sitting, going through each question and reflecting and answering. Then at the end, I thought about how I can add that to my professional development plan.

DID YOU DRAW ON THE INFORMATION YOU GAINED FROM THE SELF-ASSESSMENT TO CONSTRUCT THE PROFESSIONAL DEVELOPMENT PLAN?

Definitely. I found that the information was very detailed, and provided a very thorough overall picture of what pharmacists could and should be doing on the ward, and that really helped highlight areas that maybe I'm focusing more on and areas that I'm not focusing as much on that I should work on a bit more.

ONCE YOU COMPLETED YOUR PLAN, WHAT ARE YOU GOING TO DO WITH IT?

Once I've completed the plan I'd like to look for ways in which I can improve in these areas, or possibly restructure the way I practice on the ward in the sense of the general way I plan out my day and plan out my processes. Have a look at that. Also, try and look for areas where I can access new information to expand my knowledge in areas that the ClinCAT has highlighted that I need to work on.

ANY PROFESSIONAL DEVELOPMENT ACTIVITIES THAT CHANGE WHAT YOU DO IN TERMS OF YOUR CONTINUING EDUCATION.

In terms of CPD, probably to a degree. I probably consider this more in the sense of what I personally want to be doing on a day-to-day basis, rather than what I'm specifically taking time out to do as my CPD. But it probably will impact in the types of CPD I choose, based on the areas here that I've found I need to work on.

WERE THERE ANY BARRIERS OR CHALLENGES WITH DOING THE SELF-ASSESSMENT?

No, I don't believe so. It was pretty well structured. I felt it directed me quite well, and I didn't feel any barriers in terms of being able to self-analyse my practice and then be able to make a plan out of that.

DID DOING THE SELF-ASSESSMENT HELP YOU?

Yes, definitely. As I mentioned before, it highlighted certain areas that I'm maybe not focusing as much on that I could be focusing more on, areas of knowledge potentially that I need to improve on. It's broadened my horizons in terms of what's possible for me to be doing on the ward, even beyond – because it's a very detailed type of assessment, so even beyond the basic things that you do on a day-to-day basis. Even for an example, there was a couple of things about pharmacogenomics and just looking at the patient as a whole and going beyond, looking at the bigger picture, so that's some areas it's highlighted and probably going back to that previous question that I could probably look for more CPD areas that might enhance my knowledge in that.

SO IT DID GUIDE YOU IN WHAT AREAS YOU NEEDED HELP WITH?

Yeah.

HOW HAS USING THE TOOL IMPACTED ON YOUR PROFESSIONAL DEVELOPMENT OR CLINICAL SKILLS?

Well, it hasn't impacted directly in the sense that I need to work on these areas now, but it's definitely highlighted that I need to work on certain areas, that I need to improve certain processes. It's definitely impacted my clinical skills in the sense that it's given me a clearer direction, which I can use to improve as a pharmacist. Whereas before it would have been a bit more haphazard in the sense that maybe I would have picked up something here or there but now I have a more clear-cut direction based on the self-assessment that I can follow.

ANYTHING ELSE?

Overall, I think it's a great tool. It's written well, quite easy to follow. It's very detailed, which does add to it being quite long, so I felt that probably because it was quite long it did contribute to the tendency to maybe rush through some questions rather than reflecting on it as much as I would have if it was a little bit more short and to the point. But at the same time, I think the detail was very valuable, because like I mentioned before, it definitely highlighted a lot more areas and gave a big picture of what practice is possible.

END OF DISCUSSION.

Participant 6

INTRODUCTION

PLEASE TELL ME ABOUT THE PROCESS OF HOW YOU COMPLETED YOUR PROFESSIONAL DEVELOPMENT PLAN?

Before I was reviewed for the ClinCAT I was given several forms to first fill out, self-assessment. When I was filling out the self-assessment, there were tables that you were able to self-assess how you think you were doing. I thought that that was quite good, because it provided a standard that was expected. Then throughout the day when I was getting the ClinCAT done, my assessor assessed me according to that thing. We also had a feedback session afterwards, in which I got advice on areas I thought that I need to improve in and how my performance was going.

WERE YOU ABLE TO DRAW ON THE INFORMATION OBTAINED FROM DOING THE SELF-ASSESSMENT TO CONSTRUCT YOUR PROFESSIONAL DEVELOPMENT PLAN?

Yes. It helped highlight particular points I thought I could self-improve.

WHAT DID YOU DO WITH THE INFORMATION YOU GAINED FROM THE SELF-ASSESSMENT?

It's made me more self-aware of areas in my current ward clinical practice that I could probably improve in. It also filled a bit more self-confidence in me as to how I was going. I discussed with my assessor areas I thought that I would need a bit more improvement in and I've tried implementing that on my time since, and it has worked out well.

HOW HAVE YOU USED THE PROFESSIONAL DEVELOPMENT PLAN THAT YOU FILLED IN?

There is a section at the end of the form that has a proposed timeframe, so I've been trying to go through basically one by one trying to (inaudible – too soft) by that timeframe.

WERE THERE ANY BARRIERS OR CHALLENGES THAT YOU FOUND IN COMPLETING YOUR SELF-ASSESSMENT AND THEN USING IT TO CONSTRUCT YOUR PROFESSIONAL DEVELOPMENT PLAN?

Overall it was quite easy to follow. It was just that some points felt like they were being a bit repeated, but it was good in setting the standard. Basically the expectations and it made it clear how standard-wise you thought how you were doing between different areas. It's good to look back on it and see how you have improved.

WOULD YOU SAY THAT DOING THE SELF-ASSESSMENT PART HAS HELPED YOU?

Yes, it has. It provides a good snapshot of how I think I was doing previously compared to now.

DO YOU THINK IT GUIDED YOU AS TO WHAT AREAS YOU NEEDED IMPROVEMENT?

Yes, definitely. It provides a list of things that you may not have thought of, but you were like - okay, that's something I could highlight that I didn't think of initially, so it was quite good from that aspect.

DID USING THE TOOL IMPACT ON YOUR PROFESSIONAL DEVELOPMENT OR CLINICAL SKILLS?

Yes. It's highlighted areas I think I could improve in, and I drew a lot of advice from recommendations from where I could go from here.

THANK YOU.

END OF DISCUSSION.

NOTETAKING SOLUTIONS

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APPENDIX C. GLOSSARY OF TERMS

Experienced clinical pharmacist: a clinical pharmacist who has over five years clinical pharmacy experience.

Newly registered pharmacist: a clinical pharmacist who is within the first two years post-registration.

Professional Development: within the context of this research project this not only refers to professional development activities such as formal continuing education but also to any activity or experience that furthers the professional development of the clinical pharmacist.

Professional Development Plan: the shpa clinCAT self-assessment tool contains two Professional Development Plans, one relating to the Delivery of Patient Care and the other to Personal and Professional Qualities. It is the intention of the developers of this tool, for the participants to complete these plans once they have completed their self- assessment. The plans summarise areas the pharmacists believe they are performing well in and areas they wish to improve. There is also space for the pharmacist to indicate activities they would like to undertake. These plans can be used to guide selection of professional development activities ((Society of Hospital Pharmacists Australia [SHPA], 2014).

shpaclinCAT self-assessment: Created by the Society of Hospital Pharmacists Australia, the shpa-clin-C-A-T is a **clin**ical **c**ompetency-based **a**ssessment **t**ask designed primarily for hospital clinical pharmacists throughout Australia. The tool consists of a set of 14 competencies, accompanied by 109 performance criteria and an evidence guide (SHPA, 2015)

Society of Hospital Pharmacists Australia (SHPA): the national professional organisation for over 3,000 pharmacists, pharmacists in training, pharmacy technicians and associates working across Australia's health system (Gailbraith, 2012).