

# Perception towards the Standardization of Competency Assessment Tools among Clinical Pharmacists in the Philippines

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## ABSTRACT

**Background:** Clinical Pharmacists are dependent on assessment tools to evaluate the competency skills of student interns. **Aim:** This study aims to examine the perception of Clinical Pharmacists towards the standardization of competency assessment tools in the Philippines. **Methods and Material:** A descriptive cross-sectional study was conducted among 115 clinical pharmacists from 5 urban areas using a 20-item self-administered questionnaire through online survey. **Results:** Results showed that 25% of the preceptors had used assessment tools from their respective hospitals, whereas 62.5% used university rubrics. Respondents mentioned that students were assessed using Multiple Choice Questions (MCQ) (69.2%), Clinical Presentations (74.4%), Oral Examinations (59%), Patient Management Problem (48.7%), Directly Observed Short and Long Cases (46.2%), Short Essay Questions (43.6%), OSCE (33.3%) and OSPE (10.3%). Respondents believed that actual competency assessment tools for student evaluation were necessary (89.7%), with actual clinical competencies clearly identified for proper assessment (87.2%) and engagement at first year level (71.8%) incorporated in the curriculum. The majority (94.7%) believed in the role of partnership between hospitals and universities in the assessment of students' clinical skills. Most of respondents (81.6%) believed that competency guidelines for clinical pharmacists in the Philippines should be developed. **Conclusion:** The development and standardization of clinical competency assessments early in the clinical pharmacy curriculum is important in the students' actual future clinical practice.

**Key words:** Competency assessment, Clinical pharmacy education, Perception, Standardization, Philippines.

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## INTRODUCTION

Clinical pharmacy is a growing specialty worldwide.<sup>1</sup> Hospitals have attempted to implement clinical pharmacy structured programs in the effort to improve the quality of patient care delivery through increasing the level of safety in medication management and use.<sup>2</sup> This trend has become evident in the Philippines as well, with several tertiary hospitals setting up clinical pharmacy practice

to meet international hospital quality accreditation standards.<sup>3</sup>

There are 97 schools, colleges and universities offering Bachelor of Science in Pharmacy (BS Pharmacy) as the standard 4-year curriculum in Pharmacy in the Philippines as of 2017.<sup>4</sup> That being said, the Clinical Pharmacy curriculum entails an additional 1 year or 2 years of study depending on the institution that a student is enrolled at. Varying



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curriculum content has been noted for the institutions offering Clinical Pharmacy, with differing modules on disease management and pharmacotherapy. Ultimately, students would join internship programs in hospitals and communities (lasting for either a pre-defined number of hours or up to a whole semester), where pharmacy interns are exposed to the actual hospital systems and to the interaction with working pharmacists and clinical pharmacists. The practicing hospital and clinical pharmacists are then tasked to evaluate these students.

Regarding curriculum, several hospitals or institutions are already practicing the fundamentals of clinical pharmacy such as patient education or counselling, medication order review prior to dispensing and providing the proof of drug information to other healthcare professionals. The American College of Clinical Pharmacy (ACCP) has developed set standards of practice for clinical pharmacists as a reference in designing and assessing clinical pharmacy education and training programs. These standards address the clinical pharmacist's involvement in collaborative, team-based practice and privileging; professional development and maintenance of competence; professionalism and ethics; research and scholarship and other professional responsibilities.<sup>5</sup> Clinical Pharmacy students undergoing internship or exposure to practice are expected to adopt and practice in accordance with these standards regardless of the institution they are in.

At present, in the Philippines, there has been no study to elucidate the manner of assessment of clinical pharmacist trainees. Given the variation in curriculum delivery, it can only be inferred that assessment methodologies and tools differ from one academic institution to another, with hospitals offering internship likely having their own tools and methods. Regarding curriculum development as well as educational delivery and evaluation, the field of clinical pharmacy in the Philippines is yet to be standardized.

Developing and standardizing clinical pharmacy internship assessment tools will also enhance the delivery of clinical pharmacy education. This will greatly help the practicing clinical pharmacists in evaluating students and can also be used as a tool to enhance the current practice of clinical pharmacy in the training institution/hospital. The institution of this standard assessment in evaluating students might eventually help both academia and practice to standardize the clinical pharmacy field in the Philippines. Hence, this study aimed at exploring the existing clinical pharmacy trainee evaluation tools being used in the different institutions in the Philippines and the perceptions of the practicing clinical pharmacist evaluators towards the tools that are used in their evaluation.

## MATERIALS AND METHODS

### Study Design and Setting

This is a descriptive cross-sectional study which involved a survey conducted through an online platform by using Google Docs<sup>®</sup> forms. Target respondents were the clinical pharmacy practitioners in charge of clinical pharmacy student interns.

### Data Collection and Survey Process

Survey invites were sent to individual pharmacists through electronic mail and social media (e.g. Facebook<sup>®</sup>). Consent process was included in the email invite and reiterated on the first page of the online survey form.

Data collection was done using a 20-item self-administered questionnaire. Personal information only included respondents' age and area of clinical pharmacy practice. Items were divided into two major areas to combine the respondents' experience as the evaluator of the clinical pharmacy trainee and as the student undergoing training. The first area was related to the respondents' role as a clinical pharmacist at the present time, starting with the area of practice to their daily routine such as medication adherence checking and literature search, to their experience as a clinical pharmacy preceptor. The second area dealt with the concepts in clinical pharmacy education, beginning with the experience of respondents as a clinical pharmacist or pharmacy student (i.e. level of education, clinical exposure areas and competency skills learned) to their perception towards the present competency assessment in the current clinical pharmacy education system.

### Statistical Analysis

Statistical analysis was done using the output data from Google Docs<sup>®</sup> - Create Forms Extension to Microsoft Excel<sup>®</sup> 2016. Numerical and descriptive summaries of the data were consolidated in graphical and tabular presentations using actual counts and percentages.

### Ethical Consideration

To ensure respondent confidentiality, consent request was included in the invitation sent through electronic mail and/or social media. Request for consent was reiterated at the start of the survey and no participant's personal identification was included in the survey.

## RESULTS AND DISCUSSION

A total of 115 clinical pharmacy practitioners were invited to participate in the survey, with only 39 practitioners eventually completing the survey. In terms of distribution, respondents were based in hospitals

located in Central Luzon, Metro Manila and Davao City, with 65% of them in Metro Manila (32/49). Their demographics and baseline characteristics were shown in Table 1.

It is the objective of this study to determine the perceptions of clinical pharmacy practitioners with regard to how clinical pharmacy trainees should be evaluated as well as to determine how fit the practicing clinical pharmacists and their environments are for the delivery of experiential learning.

The credentials of the clinical pharmacy practitioners in terms of their level of education were obtained from the survey. Most of the clinical pharmacy practitioner respondents had obtained their clinical pharmacy credentials from either of the three tracks: a university bachelor's degree in pharmacy with a major in clinical pharmacy (35.9%), hospital-based clinical pharmacy experience and training (33.3%) or Doctor of Pharmacy (PharmD) program (23.1%) with evidently low numbers of actual Bachelors of Science in Clinical Pharmacy and Masters in Clinical Pharmacy.

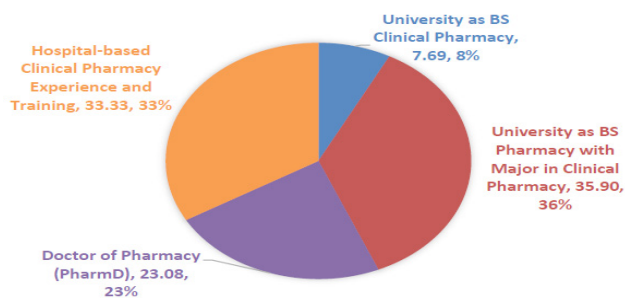
**Table 1: Demographic Characteristics of the Clinical Pharmacy Survey Respondents (n=39).**

Attribute	Criteria	Number (%) (n=39)
Age (years)	21 to 30	31 (79.5)
	31 to 40	6 (15.4)
	41 to 50	2 (5.1)
	51 and above	0 (0)
Area of Clinical Pharmacy Practice	Paediatric	3 (7.7)
	Geriatric	0 (0)
	Critical Care	18 (46.2)
	Neurological	0 (0)
	Palliative Care	0 (0)
	Emergency Room	1 (2.6)
	Ambulatory	0 (0)
	Operating Room	0 (0)
	Cardiovascular	0 (0)
	Orthopaedic	0 (0)
	Oncology	1 (2.6)
	General Nursing Units	5 (12.8)
	Centralized Review	9 (23.1)
	Other (Supervisory)	2 (5.1)
Hospital of Practice	Luzon, Except Metro Manila	1 (2.6)
	Metro Manila	32 (65)
	Visayas and Mindanao	4 (10.2)
	Unspecified	2 (5.1)
Involvement as Clinical Pharmacy Preceptor	Yes	24 (61.5)
	No	15 (38.5)

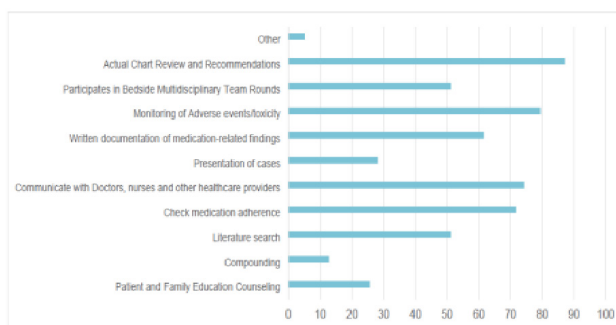
This is illustrated in Figure 1. Although the variation and non-standardized nature of obtaining the clinical pharmacy education in the country has been evident, how this trend can affect the actual experiential education as recommended by the ACCP.<sup>6</sup> has still not been studied in the Philippines population. However, the observed trends for the differences in actual skills and attitudes acquired by trainees during practical training from experiential learning were noted to be affected by age, alumni status<sup>7</sup> and prior preceptor training.<sup>8</sup>

Routine roles and activities of the clinical pharmacists are consistent with those recommended by the American College of Clinical Pharmacy (ACCP).<sup>5</sup> The majority of these activities included the actual reviewing of patients' charts and recommendations (87.2%), monitoring of adverse events (79.5%) and communication with other healthcare providers regarding medications (74.4%), as shown in Figure 2. In terms of capacity for clinical pharmacy training, this indicates that students are exposed to what a clinical pharmacist needs to do in actual practice.

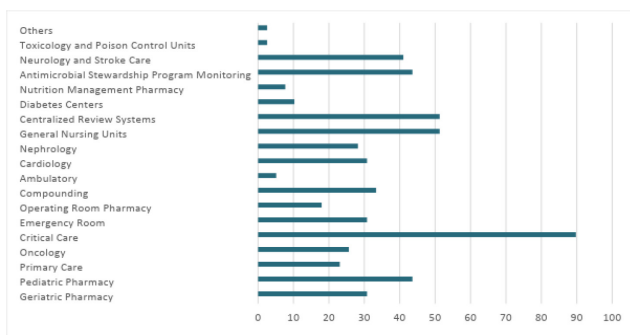
Findings regarding the pharmacy education areas of rotations of the preceptors (Figure 3) also reflect that they were well equipped to handle students for experiential learning as recommended by the ACCP, with enough balance in rotations handling general and



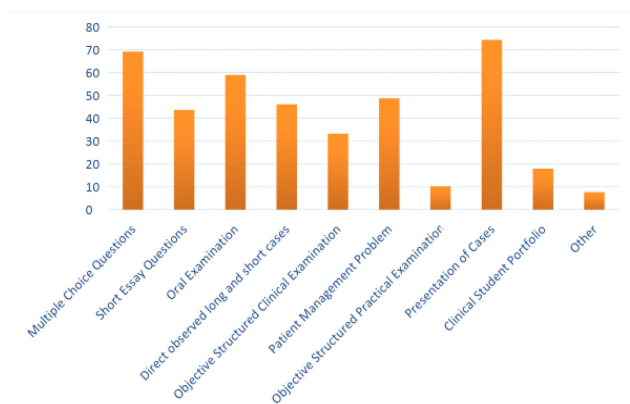
**Figure 1: Level of Clinical Pharmacy Education of Respondents (Note: No Master in Clinical Pharmacy or Certificate Course in Clinical Pharmacy yet in the Philippines as of the moment).**



**Figure 2: Percentage of Clinical Pharmacists Performing Recommended Clinical Pharmacy Functions.**



**Figure 3: Clinical Pharmacy Subspecialty Rotations of Respondents as Trainees (%).**



**Figure 4: Methods of Competency Evaluation for Clinical Pharmacist Trainees (%).**

specialty units with exposure to antimicrobial stewardship systems.<sup>5-6</sup>

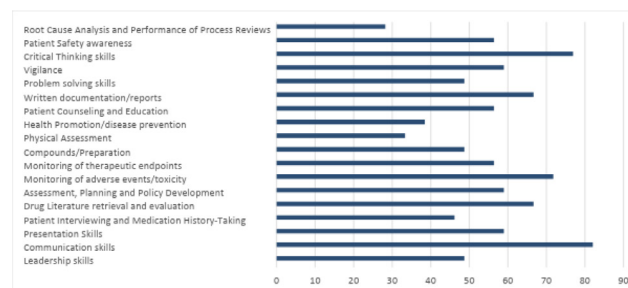
Among the 24 clinical pharmacists with actual evaluation experience, 25% of them (6/24) reported using assessment tools from their respective hospitals, whereas 62.5% (15/24) depended on the university rubrics; the remaining 12.5% of respondents reported giving evaluations without using any assessment tool.

As students and trainees themselves, the respondents experienced a variety of competency evaluation strategies. The most common assessment methods experienced by the respondents were Multiple Choice Questions (69.2%), Clinical Presentations (74.4%) and Oral Examinations (59%) (Figure 4).

These findings further support the notion that there is no standard process of clinical pharmacy trainee evaluation in place. Although the fact that university-based rubrics are still used by the majority is commendable, it is important to ensure that competencies assessed using these tools also revolve around patient-centred care or even direct patient care, which is the current paradigm in medical professional assessment, including clinical pharmacy.<sup>9-10</sup> Workplace-based assessment to ensure

actual direct patient care is most evident in actual clinical environments, namely hospitals, where patient care delivery is the ultimate objective.<sup>11-13</sup> It is in this regard that having a standard tool or set of tools are considered important, where it can ensure a standardized method of evaluation of competencies across the different levels or areas of experiential learning.<sup>6,14</sup>

Considering the respondents' experience of being former trainees and for a majority, being preceptors for younger clinical pharmacy trainees, examining their perceptions on how competency evaluation should be done is certainly of importance. Based on the results, respondents believed that actual competency assessment tools for student evaluation are necessary (89.7%), with actual clinical competencies clearly identified for proper assessment (87.2%); 71.8% agreed that engagement in the first year should be incorporated in the curriculum. The respondents clearly identified that communication skills (82.1%), monitoring of adverse events (71.8%) and critical thinking skills (76.9%) are among the important competency skills acquired through experiential learning in both the university and hospital. These findings are consistent with a study conducted among clinical pharmacy graduates from a university in Davao, Philippines, citing communication and medical information evaluation as skills learned prior to actual practice.<sup>15</sup> Figure 5 lists down the important competency skills for a clinical pharmacist as recommended by the ACCP.<sup>5</sup> Due to multiple factors, there are still areas of improvement that need to be addressed in the field of clinical pharmacy education; nevertheless, it can only be made possible if the clinical pharmacists have proper training and capacity<sup>14,16</sup> and the percentages gathered are the same once a standard assessment tool is generated comprehensive clinical pharmacy education and training tool is in the place.<sup>17</sup> With regard to the respondents' experience in clinical pharmacy education, the majority (94.7%) believed in the important role of partnership between hospitals and universities in the assessment of students' clinical skills.



**Figure 5: Percentage of Respondents Who Reported Learning Competency Skills during Training.**

81.6% of the respondents believed that competency guidelines for clinical pharmacists in the Philippines should be developed. A comprehensive clinical pharmacy education and training needed<sup>17</sup> as well as set of guidelines may be established concurrent with the standardization of the present clinical pharmacy curriculum to ensure that essential competency skills are enhanced during the pre-employment learning process.<sup>14,15</sup>

## CONCLUSION

The development and standardization of clinical competency assessment early in the clinical pharmacy curriculum have been shown to be of significant importance in the students' future clinical practice. Refinement of the clinical pharmacy curriculum should be focused on measuring the recommended competency skills during both classroom-based and experiential learning strategies in order to ensure that the future clinical pharmacy graduates are well-equipped as clinical pharmacists in their fields of choice. A study of a bigger population is recommended to further explore the mind set of clinical pharmacy practitioners on the clinical pharmacy education and training in the Philippines.

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## CONFLICT OF INTEREST

The authors declare no conflict of interest.

## ABBREVIATIONS

**OSCE:** Objective Structured Clinical Examination; **OSPE:** Objective Structured Practical Examination; **MCQ:** Multiple Choice Questions; **BS Pharmacy:** Bachelor of Science in Pharmacy; **ACCP:** American College of Clinical Pharmacy.

## FUNDING

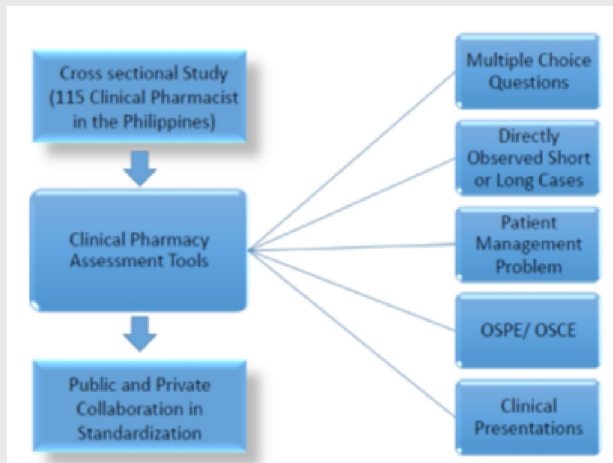
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## PICTORIAL ABSTRACT



## Summary

Clinical Pharmacists need an assessment tools enable to evaluate students on their competency skills. A 20-item self-administered questionnaire distributed among 115 clinical pharmacists from different region. Clinical preceptors assessed the students using multiple choice questions, presentations, oral examinations, patient management problem, directly observed short and long cases. 21<sup>st</sup> century clinical skills identified such as communication skills, monitoring adverse events, critical thinking skills etc were necessary. Hospital and Academe partnership were vital element in assessment of students to develop competency criteria for standardization of clinical pharmacy practice.

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