



An Assessment of the Training Needs and Preferred Course Formats for Continuing Professional Education of Filipino Pharmacists

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Research Article

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CPE is an effective formal training program, a significant portion still thinks that the program needs improvement. Most of the pharmacists were willing to invest time and money in CPE activities as it is viewed as an obligation and moral responsibility to the profession. Specific learning areas were also identified with a preferred course format of lecture with discussion.

Keywords: Lifelong learning, continuing professional education, continuing professional development, pharmacists, training needs, course formats

Abstract

Objective

This study aims to determine the Filipino pharmacists' attitudes on CPE, lifelong learning perceptions, training needs, and preferred course formats, which shall then be used to improve the continuing professional development activities provided by the Philippine Pharmacists Association.

Methods

A cross-sectional study was employed, where survey forms were provided to CPE attendees from 35 seminars conducted in 2012 covering 13 regions of the Philippines. In every local CPE seminar, a target of fifty (50) respondents was set.

Results

The response rate was at 37.4%. Majority agreed that CPE must be a requirement for practice, and attendance will only increase when made mandatory. Pharmacists were willing to invest time and money for CPE, with specific cost amounting to 500-1000 Philippine pesos (11-22 USD) to be shouldered by employers. Most of the pharmacists (94.4%) considered themselves as lifelong learners. However, when asked if they regularly update their knowledge, achieve goals in pursuit of learning, and attain lifelong learning goals, the proportion of participants who agreed decreased. Filipino pharmacists have articulated their interest to learn more about drug quality, medication compliance, patient counselling and good pharmacy practice. In terms of course format, it has been found that lecture with discussion is the most preferred; however, other formats may also be explored and used for enhanced learning in CPE activities.

Conclusion

In conclusion, although majority of pharmacists believe that

Introduction

The role of the pharmacist is rapidly evolving to meet the needs of the changing health care system. From being product-oriented to patient-centered professionals, pharmacists are now expected to provide complete pharmaceutical care to patients. Due to these expanded roles and responsibilities, there is a corresponding ethical demand on the profession that is imposed both on the basic and continuing professional education (CPE) of pharmacists; hence, lifelong learning becomes a commitment^[1].

In addressing these new roles, CPE must change from a traditional content-based curriculum to a process model, known as continuing professional development (CPD). The principles of CPD as a lifelong learning approach is being incorporated into continuing education systems in countries like Great Britain, Canada and New Zealand^[2]. This learning model emphasizes a 5-step process: reflect, plan, act, evaluate, and document^[3]. The learner determines his own learning needs, makes plans to meet those objectives, implements those plans and finally, assesses whether it was successful or not^[4]. These needs refer to characteristics that are requisites to effective CPE programs such as content (e.g., topics), delivery (e.g., course format, learning style), and structural conditions (e.g., remuneration, obligation)^[5]. Such analysis is important as these factors affect learning outcomes. Thus, in order to



establish more effective programs in the Philippines, CPE must be specifically tailored for Filipino pharmacists, with their identified training needs and preferred method of delivery (e.g., course format, learning style)^[5].

In the Philippines, CPE was once made mandatory through Executive Order No. 266 series of 1995 as a pre-requisite for the renewal of professional licenses. It was repealed in 2000, and in 2008, the Professional Regulation Commission (PRC) reported through its Resolution No. 2008-465 that all Professional Regulatory Boards (PRBs) and accredited professional organizations (APOs) can implement CPE in the practice of their respective professions.

The Philippine Pharmacists Association, Inc. (PPhA), the accredited, integrated national professional organization of pharmacists in the country, whose mission is to empower the Filipino pharmacist to be professionally competent and globally competitive, has been conducting CPE for the last 65 years.

In the long years of offering the PPhA-provided CPE, no formal evaluation of the program has been conducted to specifically assess the needs of Filipino pharmacists. This study aims to: 1) describe the Filipino pharmacists' attitudes on continuing education (CE) and other CE-related issues; 2) determine the Filipino pharmacists' training needs and perception of themselves as lifelong learners; and 3) determine their preferences for course formats, as well as the perceived appeal of such formats for continuing professional development activities. The findings of this study shall be used to improve the continuing professional development activities provided by the Philippine Pharmacists Association.

Material and Method

A cross-sectional study was employed where a five-page questionnaire was provided to attendees of CPE seminars offered by PPhA in 2012. The questionnaire used was divided into three sections: (1) training needs assessment and lifelong learning perceptions, (2) views regarding CPE, and (3) course format preference and appeal. Participants were asked to rank nine (9) instructional methods according to preference and to rate them as very appealing, quite appealing, neutral, quite unappealing or very unappealing. Only 35 out of the 48 CPE seminars conducted in 13 regions of the Philippines were sampled in the study (5 regions from Luzon, 3 from Visayas, 5 from Mindanao). In every local CPE seminar, a target of fifty (50) respondents was set. For seminars with less than 50 attendees, all attendees were asked to answer the questionnaire. For those chapters with more than fifty (50) attendees, the survey forms were randomly provided to pharmacists at the end of the program.

Data Analysis

Demographic data were analysed using Epi Info to regroup continuous demographic variables into intervals and lessen the number of response categories, before determining their

measures of central tendency (i.e. mean, median, and mode). Descriptive analysis was performed to identify training needs, lifelong perceptions, views regarding structural conditions, and preference and appeal for course formats. The analysis was performed by geographic region. However, in analyzing the views regarding structural conditions, stratification was done using the 13 political regions of the country to check if any variation occurs across these regions. Stata 11 was used for these computations.

Results

Response Rate

For this study, a sample population of 2337 was computed based on a total of 5740 registered pharmacists who attended all CPE seminars conducted by the PPhA in 2012. There were 910 accomplished survey forms. However, only 873 (37.4%) were found to be usable since the integrity of the 37 survey forms cannot be ascertained. Table 1 shows the summary of respondents by major Philippine island.

Demographics of Respondent Pharmacists used in the Analysis

The demographics only include those coming from survey forms with complete and reliable entries. Majority of the participants who have answered the survey came from Luzon (53.72%) followed by Visayas (24.28%), and Mindanao (21.99%). Most of the respondents were females at 94.2%, while male respondents were significantly fewer at 5.8%. The largest age group was 25 to 34 years old (33.5%), followed by those who are 35 to 44 years old (28.4%). The mean age was 37.9 years, with a median age of 36 years, and the mode was 30 years. Majority of respondents were married at 60.7%, while the unmarried, which consisted of the single and separated/annulled were the minority at 37.3% and 2.0%, respectively. The most common highest educational attainment was bachelor's degree at 91.5%, while the rest had a distribution of 4.6% PharmD, 3% master's degree, and 0.9% doctoral degree. Most of the respondents have been practicing for less than 10 years (41.4%), followed by 10 to 19 years (32.1%), 20 to 29 years (16.1%), 30 to 39 years (7.9%) and lastly, more than 39 years (2.5%). On the average, the respondents have been practicing for 13.6 years, with the median at 12 years, and the mode at 1 year. The current employment status of most respondents was permanent at 82.6%. The most common practice setting was community/retail pharmacy at 73.7%, with the next most common being the hospital/clinic at 14.8%. More than half of respondents were working as staff pharmacists at 57.1%, with the rest distributed between pharmacist-owner and



manager/principal staff pharmacist positions at 26.1% and 16.9%, respectively.

Training Needs Assessment

In the assessment of training needs, 61.2% of the respondents recognize that there is an effective formal CPE/training program for pharmacists conducted in the country. Majority of the respondents (86.3%) believe that they have sufficient knowledge to perform their duty. In terms of training, 73.8% thinks their experience is sufficient, mostly coming from Luzon. To present the data numerically, the qualitative responses *excellent*, *very good*, *good*, *satisfactory* and *poor* were assigned values of 5, 4, 3, 2, and 1, respectively. The mean scores were calculated (grouped by major island) and are presented in the figure below (see Figure 1). The specific training needs of pharmacists from Luzon, Visayas, and Mindanao can be seen in Figures 2, 3, and 4 respectively.

Table 1. Summary of the Number of Conducted CPEs and Corresponding Number of Attendees

Major Philippine Island	No. of Conducted CPE	No. of Survey Respondents
Luzon (Regions 1-5)	22 (45.8)	503 (55.3)
Visayas (Regions 6-8)	10 (20.8)	212 (23.3)
Mindanao (Regions 9-13)	16 (33.3)	195 (62.9)
Total	48	910

Preference and Appeal for Course Format

Reflecting the pharmacists' preferences, Table 2 shows the ranking of course formats based on mean scores. 'Lecture with discussion' ranked first and majority of the respondents said that they find this format *very appealing* (47.7%). The appeal of the other course formats can be seen in Table 3.

Table 2. Ranking of Preferred Course Format Based on Mean Scores

Course Format	Rank	Mean±SD
Lecture With Discussion	1	2.62±0.08
Lecture	2	3.14±0.14
Multimedia Education	3	3.17±0.14
Case Studies And Problem-Based Learning	4	3.22±0.08
Brainstorming and Report-Back Session	5	3.40±0.09
Panel Discussion	6	3.52±0.09
Web-Based Learning	7	3.81±0.10
Self-Study	8	4.27±0.11
Role Playing	9	4.52±0.11

Lifelong Learning Perceptions of Filipino Pharmacists

Questions related to their self-perception as lifelong learners are listed in Table 4, as well as the proportion of the sample population who answered 'yes' and 'no'. Considering the proportion of those who answered 'yes', it can be observed that the general pattern is that of decreasing as questions

proceed from a more general question (Qa) to more specific ones (Qb, Qc, Qd).

Table 3. Response of Attendees Regarding Appeal of Course Formats among All Respondents

Course Format	No. (%)				
	Very appealing	Quite appealing	Neutral	Quite unappealing	Very unappealing
Brainstorming and Report-Back Session	248 (28.4)	325 (37.2)	182 (20.9)	16 (1.8)	10 (1.2)
Case Studies and Problem-Based Learning	270 (30.9)	313 (35.9)	173 (19.8)	14 (1.6)	6 (0.7)
Lecture	311 (35.6)	294 (33.7)	141 (16.2)	14 (1.6)	5 (0.6)
Lecture With Discussion	416 (47.7)	271 (31.0)	85 (9.7)	8 (0.9)	4 (0.5)
Multimedia Education	354 (40.6)	272 (31.2)	117 (13.4)	117 (13.4)	4 (0.5)
Panel Discussion	237 (27.2)	299 (34.3)	200 (22.9)	27 (3.1)	6 (0.7)
Role Playing	111 (12.7)	255 (29.2)	276 (31.6)	89 (10.2)	28 (3.2)
Self-Study	139 (15.9)	277 (31.7)	256 (29.3)	75 (8.6)	11 (1.3)
Web-Based Learning	231 (26.5)	270 (30.9)	208 (23.8)	38 (4.4)	9 (1.0)

Table 4. Lifelong Learning Perceptions among Respondents

Question	Yes	No
a. Do you consider yourself as lifelong learner?	824 (94.4%)	22 (2.52%)
b. Do you regularly update your skills and knowledge?	717 (82.1%)	132 (15.12%)
c. Are you able to identify you goals in pursuit of learning?	798 (91.4%)	37 (4.24%)
d. Are you successful in achieving your lifelong learning goals?	698 (80.0%)	130 (15.0%)

Views Regarding CPE (Structural Conditions)

As an obligation and moral responsibility to the profession, 71.8% of pharmacists believe that they must regularly attend CPE as requisite to practicing their jobs. Table 5 shows that majority (95.9%) of the pharmacists were willing to invest time in CPE activities, with minimal variation in percentage across regions (90-100%). They were also willing to financially invest in CPE. Most (52.9%) are willing to pay between 500 and 1000 Philippine pesos (roughly 11 to 22 US dollars) but 56% believe that the cost must be shared by the pharmacist and the employer. It can be noted that only 2.2% of the respondents believe that CPE must be given for free. Pharmacists were also asked where they want their money spent in CPE to be utilized. Since this is an open-ended question, the answers were categorized



by themes. The most recurring answer was additional/new knowledge (n=117). See Table 6 for complete tabulation of answers.

Table 5. Views of Pharmacists on Structural Conditions by Major Island

Question	Response	Luzon	Visayas	Mindanao
Willingness to invest time	Yes	448 (95.5)	203 (95.8)	186 (96.9)
	No	12 (2.6)	2 (0.9)	3 (1.6)
Willingness to invest money	Yes	379 (80.8)	176 (83.0)	166 (86.5)
	No	50 (10.7)	18 (8.5)	10 (5.2)
Cost of CPE attendees are willing to pay	None	13 (2.8)	3 (1.4)	3 (1.6)
	<P500	124 (26.4)	63 (29.7)	34 (17.7)
	P500-P1000	237 (50.5)	105 (49.5)	120 (62.5)
	P1000-P2000	55 (11.7)	26 (12.3)	22 (11.5)
	>P2000	22 (4.7)	4 (1.9)	6 (3.1)
Party who should shoulder the cost of CPE	RPh only	50 (10.7)	27 (12.7)	19 (9.9)
	Employer only	118 (25.2)	71 (33.5)	61 (31.8)
	Both RPh and Employer	282 (60.1)	106 (50.0)	101 (52.6)
Continue pharmacy practice only when attending CPE	Yes	346 (73.8)	156 (73.58)	125 (65.1)
	No	101 (21.5)	49 (23.11)	55 (28.7)
Increase attendance when CPE is made compulsory	Yes	348 (74.2)	160 (75.5)	142 (74.0)
	No	94 (20.0)	38 (17.9)	39 (20.3)

Discussion and Conclusion

An effective needs assessment is necessary in order to meet the lifelong learning needs of Filipino pharmacists. This will help in identifying appropriate topics and materials to be covered during CPE activities. According to American Council for Pharmaceutical Education (ACPE)^[7], the process must be systematic and multifaceted, and should employ formal, objective procedures to assure relevance, balance and use of the best available evidence. Using this survey to achieve this objective, several questions were asked to see how they perceive their knowledge levels on specific courses/topics in pharmacy. Although 61.2% of the respondents believe that CPE is an effective formal training program, 28.1 % still thinks the program needs improvement. Most of pharmacists think they have “sufficient” knowledge and training, although it appears quite inconsistent with how they conservatively rate their knowledge as *good* in pharmacology, management/business protocols, pharmacy law and ethics, operating equipment in drugstore, disease/disease

management, and manufacturing and quality control. In fact, when asked how they want their money paid in CPE to be utilized, specific educational contents were listed. These include: latest drug products/issues, drug quality, compliance and medication safety, disease management and medication counseling, update on pharmacy law/policies, and good pharmacy practice. Pharmacists rated themselves *very good* in retail concepts. This may be attributed to the significant number of pharmacists in the study coming from the community setting. When responses were regionally

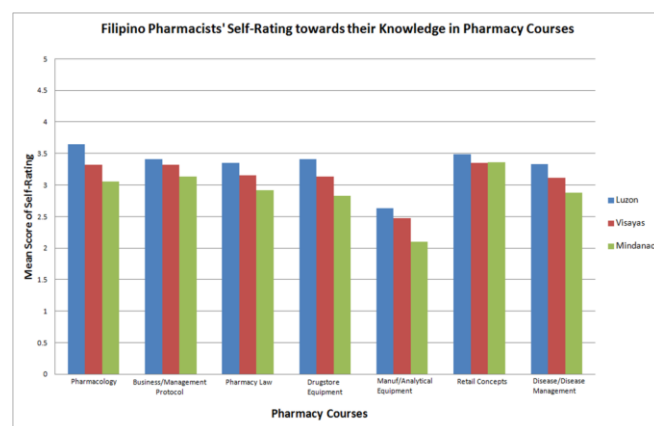


Figure 1. Filipino Pharmacists' Self-rating towards their Knowledge in Pharmacy Courses/Subject Areas

examined, it was observed that for pharmacists in regions 1, 2 and 3, pharmacists rated themselves in most topics as *very good* (e.g., pharmacology, management/business protocols, operating drugstore equipment, retail concepts). This may signify greater confidence about their professional competence, knowing that most pharmacists in these regions are relatively young (i.e. within the age bracket of 20-30 years) and just recently graduated from the University.

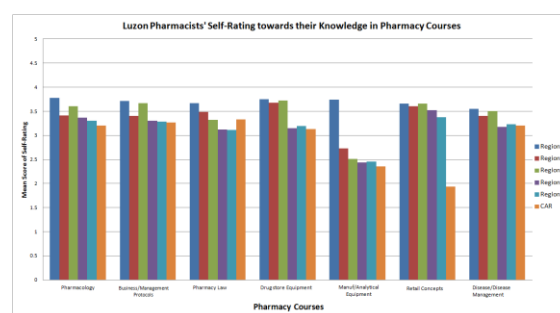


Figure 2. Luzon Pharmacists' Self-Rating towards their Knowledge in Pharmacy Courses

The most favoured course format is not a very surprising finding, since for the past years the PPhA-provided CPEs were mainly given through lectures. In previous studies conducted outside the country, lecture is usually the course format of preference^[4], in this study, it was only ranked second. It can be



seen how Filipino pharmacists regard active participation as a stimulating factor to learning. Utilization of other course formats may also be considered, since based on appeal, only role playing was deemed as *neutral*. All the rest were mostly rated *quite appealing* or *very appealing*. In addition, findings from several studies mentioned in "University-based CE for Pharmacists"^[8] reveal that lecture (or print-based correspondence courses) referred as traditional CE, when used alone, does not produce changes in practice. Using multiple techniques with repeated exposures, an ongoing, contextually relevant, and interactive CE provides improvements in knowledge, skills, attitudes, behaviours and patient outcomes^[8]. This now raises the issue of preparedness among CPE providers commissioned by PPhA to handle different course formats. From content-based learning, the shift must now focus on skill development^[8,9]. May it simply be facilitating role playing activities, discussions in small group or panel, web-based or multimedia-based, these instructional approaches include significant active learning that have proven to enrich learning in CPEs. Learning these instructional methods may be labor intensive, quite demanding in time and effort, and may incur additional expenses. The CPE providers should know how willing their speakers are to invest in order for them to be professionally competent to handle these improved CPE activities. CPE providers, when they decide to venture into this, must determine if their finances would allow them to invest. In addition, it may be found beneficial to include program evaluations after CPE activity to determine whether it has effectively addressed needs and transferred knowledge and skills among participants^[8].

The questions used in the survey instrument to determine pharmacists' perception to lifelong learning were derived from lifelong learning statements made by Hanson and DeMuth^[5]. The results obtained in the study were consistent to the results of the one conducted in the US. The question "Do you consider yourself as a lifelong learner?" is a general, noncommittal question where a large proportion of respondents (94.4%) agreed to. As the following questions became more specific and outcomes based (such as questions 2, 3, and 4), the proportion of those who said yes decreased. It was interpreted, and as applicable in this study, that when the degree of accountability for lifelong learning is increased, the perception as lifelong learner decreased^[5]. Such may be an indication why they rate their knowledge as *good* and not as *excellent* since some are unable to regularly update their skills and knowledge and/or to achieve lifelong learning goals.

In the Philippines and in most countries around the globe, it is not mandatory to attain a certain number of CPE units prior to re-licensure^[9]. In the Western Pacific region, this practice has been implemented in countries like Singapore, Vietnam, Korea, and Taiwan^[1]. It is encouraging that in the light of CPE as a moral and ethical obligation to the profession, majority of the Filipino pharmacists agreed that it must be made mandatory for practice and re-licensure. This survey also reflects the interest of pharmacists for more educational opportunities such as conduct of more CPEs and trainings, as

well as access to free training manuals, learning materials, health journals and books.

In conclusion, although majority of the pharmacists believe that CPE is an effective formal training program, a significant portion still thinks that the program needs improvement. Most of the pharmacists were also willing to invest time and money in CPE activities as it is viewed as an obligation and moral responsibility to the profession. There is inconsistency in their lifelong learning perceptions, where even though most consider themselves as lifelong learners, the commitment to corresponding obligations (e.g. regular updating) remains to be questionable. Filipino pharmacists have articulated their interest to learn more about drug quality, medication compliance, patient counseling and good pharmacy practice. In terms of course format, it has been found out that lecture with discussion is considered as the most preferred; however, other course formats may also be explored and used for enhanced learning in CPE activities.

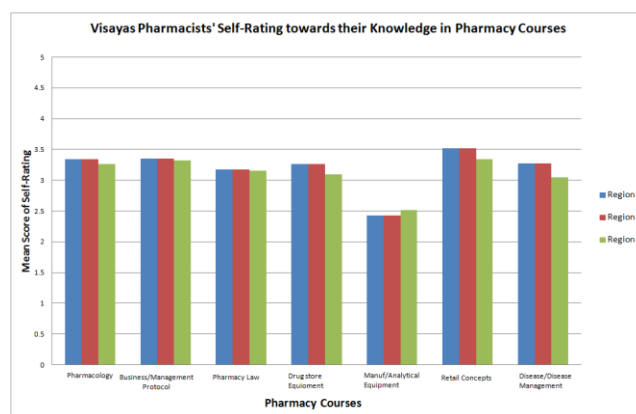


Figure 3. Visayas Pharmacists' Self-Rating towards their Knowledge in Pharmacy Courses

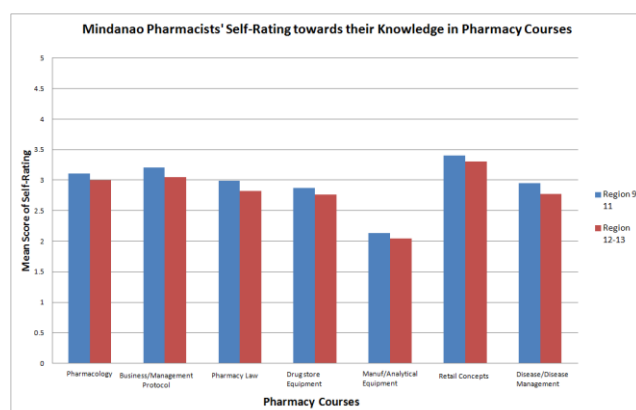


Figure 4. Mindanao Pharmacists' Self-Rating towards their Knowledge in Pharmacy Courses



Table 6. Responses on How to Allocate the Money Paid in CPE Categorized by Themes

A limitation of the study is that some regions in the country were not sampled thus, the sample

Program content-related	Delivery	Specific educational content	Logistics	CPE-related	Non-CPE related activities
Additional (new) knowledge (N=117)	Excellent speakers (N=31)	Latest drug products/issues (N=11)	Training manuals, guides, handouts, learning materials (N=31)	Utilize money for more CPEs (at least twice a year) (N=17)	Benefits for the pharmacists (e.g. experiencing calamity), retirement (senior citizen) (N=12)
Relevant topics to update skills (N=98)	Satisfaction to topics/ good quality/effective training program (N=26)	Update on law/policies (N=4)	ID's, certificates (N=9)	Free trainings (N=4)	Improvement of the chapter/ PPhA (N=8)
Improved competency/ professional growth (N=4)	Follow appropriate timetables (N=3)	FDA policies (N=2)	MIMS, books, health journals (N=8)	Other CPE projects/activities (N=4)	Medical missions, outreach programs (N=7)
Workshop (N= 2)	Proper discussion (delivery)	Drug quality, compliance, medication safety (N=5)	Venue (N=9)	Improvement of CPE (N=2)	Investment (N=6)
		Disease management for medication counselling (N=5)	Delicious and good food (salad) (N=7)	CPE units (N=6)	Projects related to the profession (non-CPE related) (N=5)
		GPP (N=4)	Other freebies, simple tokens (seminar kits) (N=16)	Educational Tour (N=3)	Research (N=2)
		Management of retail drugstores (N=2)	Free registration (N=2)	Support international CPE	PPhA updates (N=2)
		Clinical studies program	Lodging	Online subscription to journals	Gain friends
			Airfare		Scholarship for indigents Health Card
					Insurance Discount cards to establishments affiliated to PPhA

In order to develop more tailored continuing professional education programs, the findings of this survey can be used to improve the design and strategies that will be employed to ensure participation among pharmacists. This provides an opportunity for CPE providers to positively impact the lifelong learning attitudes of Filipino pharmacists.

population and size may not be sufficient to represent the views of Filipino pharmacists. In addition, the sampling population only consisted of those who have attended the local CPE in 2012, which on its own already poses a great bias towards CPE programs. Thus, future studies should cover



more regions in the Philippines and employ a larger sample size.

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AUTHORS' CONTRIBUTIONS

Authors contributed equally to all aspects of the study.

PEER REVIEW

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CONFLICTS OF INTEREST

The authors declare that they have no competing interests.