ความเข้าใจต่อการตัดสินใจของเภสัชกรเจ้าของร้านยาในการสมัครเข้าร่วมโครงการร้านยาคุณภาพในจังหวัดนครราชสีมา

นางสาวพงศ์ผกา ภัณฑลักษณ์

วิทยานิพนธ์นี้เป็นส่วนหนึ่งของการศึกษาตามหลักสูตรปริญญาวิทยาศาสตรมหาบัณฑิต
สาขาวิชาเภสัชศาสตร์สังคมและบริหาร ภาควิชาเภสัชศาสตร์สังคมและบริหาร
คณะเภสัชศาสตร์ จุฬาลงกรณ์มหาวิทยาลัย
ปีการศึกษา 2551

UNDERSTANDING DECISION OF PHARMACY-OWNING PHARMACISTS TO ENROLL IN THE COMMUNITY PHARMACY ACCREDITATION PROGRAM IN NAKHONRATCHASIMA PROVINCE

Miss Pongpaka Puntaluck

A Thesis Submitted in Partial Fulfillment of the Requirements
for the Degree of Master of Science Program in Social and Administrative Pharmacy
Department of Social and Administrative Pharmacy
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Thesis Title	UNDERSTANDING DECISION OF PHARMACY-OWNING PHARMACISTS TO ENROLL IN THE COMMUNITY PHARMACY ACCREDITATION PROGRAM IN NAKHONRATCHASIMA PROVINCE
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พงศ์ผกา ภัณฑลักษณ์ : ความเข้าใจต่อการตัดสินใจของเภสัชกรเจ้าของร้านยาในการสมัครเข้าร่วมโครงการร้านยาคุณภาพในจังหวัดนครราชสีมา (UNDERSTANDING DECISION OF PHARMACY-OWNING PHARMACISTS TO ENROLL IN THE COMMUNITY PHARMACY ACCREDITATION PROGRAM IN NAKHONRATCHASIMA PROVINCE) อ.ที่ปรึกษาวิทยานิพนธ์หลัก : ผศ.ดร.นิยดา เกียรติยิ่งอังศุลี, 117 หน้า.

งานวิจัยนี้มีวัตถุประสงค์เพื่อศึกษาปัจจัยที่มีผลต่อการตัดสินใจของเภสัชกรเจ้าของร้านยาในการสมัครเข้าร่วมโครงการร้านยาคุณภาพ การวิจัยแบ่งเป็น 2 ช่วง ช่วงแรกเป็นการสำรวจโดยได้รับแบบสอบถามกลับจำนวน 33 ราย (อัตราความร่วมมือร้อยละ 73.33) ช่วงที่สองเป็นการสัมภาษณ์เชิงลึกเภสัชกรเจ้าของร้านยาคุณภาพจำนวน 7 รายและเภสัชกรที่ไม่ใช่เจ้าของร้านยาคุณภาพจำนวน 10 ราย ดำเนินการระหว่างวันที่ 1 สิงหาคม – 30 กันยายน 2551

ผลการศึกษาพบว่าเภสัชกรเจ้าของร้านยาคุณภาพมีปัจจัยจูงใจสำคัญอยู่ที่ความต้องการยกระดับวิชาชีพเภสัชกรรม ทำให้บทบาทของเภสัชกรร้านยาชัดเจนขึ้น และสร้างคุณค่าของการให้บริการเภสัชกรรมที่ดีแก่ผู้รับบริการซึ่งเป็นแรงจูงใจภายใน ส่วนเภสัชกรที่ไม่ใช่ร้านยาคุณภาพเห็นว่าผลประโยชน์ทางธุรกิจซึ่งเป็นแรงจูงใจภายนอกเป็นปัจจัยสำคัญต่อการตัดสินใจเข้าร่วมโครงการร้านยาคุณภาพ เภสัชกรกลุ่มนี้เห็นว่าประชาชนผู้รับบริการจำนวนมากยังไม่รู้จักโครงการร้านยาคุณภาพและไม่เข้าใจถึงความแตกต่างระหว่างร้านยาคุณภาพกับร้านยาที่ไม่ใช่ร้านยาคุณภาพ นอกจากนี้ยังมีปัจจัยอื่นที่มีผลต่อการตัดสินใจเข้าร่วมโครงการคือ ความไม่เข้าใจความหมายและวัตถุประสงค์ที่แท้จริงของร้านยาคุณภาพ, การไม่เห็นประโยชน์ของโครงการร้านยาคุณภาพ, ขาดการสนับสนุนจากหน่วยงานที่เกี่ยวข้อง, ผู้รับบริการและชุมชนไม่ได้ตระหนักถึงความสำคัญของร้านยาคุณภาพ, งบประมาณลงทุน, การจัดหาเภสัชกร, เกณฑ์มาตรฐานร้านยาคุณภาพ และการบังคับใช้กฎหมาย การศึกษานี้มีข้อเสนอแนะว่าการส่งเสริมเภสัชกรเข้าร่วมโครงการร้านยาคุณภาพนั้นต้องอาศัยทั้งการสร้างให้เกิดแรงจูงใจใฝ่สัมฤทธิ์ชนิดที่เป็นแรงจูงใจภายในและภายนอกควบคู่กัน และควรมีการปรับปรุงเกณฑ์มาตรฐานร้านยาคุณภาพโดยเฉพาะมาตรฐานที่ 2 เรื่องการบริหารจัดการเพื่อคุณภาพและมาตรฐานที่ 3 เรื่องการบริการเภสัชกรรมที่ดีให้เหมาะสมแก่การปฏิบัติจริง

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สาขาวิชา เภสัชศาสตร์สังคมและบริหาร...ลายมือชื่ออ.ที่ปรึกษาวิทยานิพนธ์หลัก...

ปีการศึกษา 2551.....

##4976860933 : MAJOR SOCIAL AND ADMINISTRATIVE PHARMACY
KEYWORDS: COMMUNITY PHARMACY ACCREDITATION / DECISION / ENROLLMENT / STANDARD OF PHARMACY / MOTIVATION / GPP

PONGPAKA PUNTALUCK : UNDERSTANDING DECISION OF PHARMACY-OWNING PHARMACISTS TO ENROLL IN THE COMMUNITY PHARMACY ACCREDITATION PROGRAM IN NAKHONRATCHASIMA PROVINCE. THESIS ADVISOR : ASST. PROF. NIYADA KIATYING-ANGSULEE, Ph.D., 117 pp.

The objective of this study is to explain factors affecting pharmacy-owning pharmacists' decision to enroll in the Community Pharmacy Accreditation (CPA) program. The study was divided into two phases. Phase I consisted of a survey by 33 returned questionnaires for an overall 73.33 % response rate. Phase II was in-depth interview with seven pharmacists in accredited pharmacies and ten pharmacists in non-accredited pharmacies. Data were collected between August 1 and September 30, 2008.

The results showed that the pharmacists in accredited pharmacy had prominent intrinsic motivation compared to pharmacists in non-accredited pharmacy. Pharmacists in accredited pharmacy were aware of pharmacy professionalism and wanted to extend their roles of pharmacy professionalism as well as provide good pharmacy services to patients. They saw value of joining CPA program in the way that they had opportunity to provide good pharmaceutical care to patients. For pharmacists in non-accredited pharmacy, business benefit was the main factor that influenced an extrinsic motivation and result in decision to enroll in CPA program. They did not see any benefit of joining it and they said that most consumers did not know about CPA program and could not differentiate between accredited pharmacy and non-accredited pharmacy. Other factors were CPA awareness, futility, support, recognition of patients and community, cost, availability of pharmacists, standard of pharmacy and law enforcement. This study suggested that public promoting on CPA program should consider both intrinsic and extrinsic motivation. The standard of pharmacy for CPA program should be revised for the program improvement, especially standard 2 (quality management) and standard 3 (good pharmacy service)

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LIST OF ABBREVIATIONS

ADE	ADVERSE DRUG EVENT
CPA	COMMUNITY PHARMACY ACCREDATATION
CPE	CONTINUING PHARMACEUTICAL EDUCATION
FDA	FOOD AND DRUG ADMINISTRATION
GPP	GOOD PHARMACY PRACTICE
HCP	HEALTH CONSUMER PROTECTION
OTC	OVER THE COUNTER

CHAPTER I
INTRODUCTION

1.1 Rationale

Pharmacies are primary distribution channel of drugs for patient self-medication. Patients can conveniently afford medication in a pharmacy. In addition, pharmacies provide health information service. Such as, proper usage of drugs and constructive knowledge in health care. **(1)** The Thai Food and Drug Administration (Thai FDA) gives precedence in this distribution channel because pharmacies can help to reduce irrational use of drug in patients. Since 2002, the Thai FDA and the Thai Pharmacy Council in collaboration with other related organizations have established "Community Pharmacy Accreditation Program (CPA program)" to acknowledge quality of pharmacies as accredited pharmacy. This program is meant to ensure high quality services rendered by pharmacy and professional pharmacist, improve pharmacies to be accredited pharmacies and construct pharmacies to be a source of health and drug education for patients in the community. It is also aimed to improve the service quality of pharmacies in Thailand to be at international standards. **(2)**

In 2006, the Secretary General of the Thai FDA planed to get about 500 accredited pharmacies and set target to raise the number of accredited pharmacy at least twenty percents from all of type I pharmacies in every province. **(3)** Until December of 2008, there were three hundred and sixteen accredited pharmacies (3.14%) in Thailand. **(4)** Nakhonratchasima province had eleven accredited pharmacies (6.71%) from all of one hundred and sixty four type I pharmacies. **(5)**

Even though this program is good and beneficial for customers, and had privileges for accredited pharmacies in early period of this program, but there are not a large number of accredited pharmacy. From literature reviews, there were many quantitative studies about opinions on decision to enroll in CPA program but these perhaps not adequately taken into account this complexity and investigated all factors. More research is needed to improve our understanding in this regard. Thus, this study is carried out by qualitative and quantitative methods to explain factors affecting pharmacy-owning pharmacists' decision to enroll in CPA program that could be used

to assist in the interpretation of statistical data. The results from this study could help Nakhonratchasima Provincial Public Health Office in motivating pharmacies to enroll in CPA program.

1.2 Objectives

The objectives of this study are

(1) To explore demographic data of community pharmacies in Nakhonratchasima province

(2) To explain factors affecting pharmacy-owning pharmacists' decision to enroll in CPA program

1.3 Expected benefits

The expected benefits from this study are

(1) The results of this study will help Nakhonratchasima Provincial Public Health Office in motivating pharmacies to enroll in CPA program in Nakhonratchasima

(2) The information from this study will reflect pharmacists' opinions about CPA program to the Thai FDA, the Pharmacy Council and concerned organization and propose some strategies to increase number of accredited pharmacy

1.4 Scope of the study

This study was conducted in type I pharmacies which had full-time pharmacist during pharmacy work-hours in Nakhonratchasima, Thailand.

1.5 Operational definition

Modern pharmacies in Thailand are divided into two types: type I pharmacy and type II pharmacy**. (6)**

Type I pharmacy defined as modern pharmacy with at least one registered pharmacist on duty. Types of drugs allow to be sold in these pharmacies include dangerous drugs, special controlled drugs (need prescription), narcotic drugs schedule 3, and psychotropic substances schedule 3 and 4.

Type II pharmacy defined as modern pharmacy which need not have registered pharmacist on duty. They are allowed to sell only pre-packaged medications (as known as over-the-counter (OTC) medications such as house-hold remedies and ready

made packs which are not dangerous and special control). Other types of drugs are not allowed.

Community Pharmacy Accreditation (CPA) is a system or process for providing public confidence and a tool for improvement related to the Thai community pharmacy's standard practice guideline. This tool is used by the Pharmacy Council to facilitate and monitor service quality of community pharmacies.

Accredited pharmacy defined as a pharmacy which is evaluated and accredited from the Pharmacy Council to ensure high quality pharmacy and health service by pharmacy and professional pharmacist. **(2)**

CPA awareness defined as pharmacy-owning pharmacist understands meaning and concept of CPA, and concern about CPA program.

Futility defined as pharmacy-owning pharmacist does not see advantages from CPA program and different advantage between accredited pharmacy and non-accredited pharmacy.

Incentive defined as pharmacy-owning pharmacist receives benefit, premium, reward or promotion from joining in CPA program.

Support defined as pharmacy-owning pharmacist receives support from supporter: the Thai FDA, the Pharmacy Council, Provincial Public Health Office and other concerned organizations.

Professionalism defined as pharmacy-owning pharmacist concerns on basis of pharmacy's contract with society. It demands placing the interests of patients above those of the pharmacist, setting and maintaining standards of competence and integrity, and providing expert advice to society on matters of health.

Recognition of patients and community toward CPA defined as pharmacy-owning pharmacist receives recognition toward CPA from patients and community.

Cost defined as pharmacy-owning pharmacist invests on costs (such as money and time) for restoring and improving pharmacy according to standard of pharmacy.

Knowledge on process of accreditation defined as pharmacy-owning pharmacist has knowledge and understanding what to do on process of accreditation.

Availability of pharmacists defined as pharmacy-owning pharmacist works in pharmacy during working hour or have part-time pharmacist works in pharmacy during period time that pharmacy-owning pharmacist can not work.

Standard of pharmacy defined as standard of pharmacy by the Pharmacy Council for CPA program which consists of 5 sections: premises, equipment and facilities (standard I); quality management (standard II); good pharmacy practice (standard III); laws, regulations and ethics (standard IV); and services and community participation (standard V).

Law enforcement defined as compelling pharmacy to be accredited pharmacy by law enforcement: joining in CPA program is voluntary, not enforced by the Drug Act B.E.2510 (1967).

1.6 Conceptual framework

What factors affect pharmacy-owning pharmacists' decision to enroll in CPA program? The answers of this question are keys to achieve wide-spread implementation of CPA program. Hodgson (1996) suggests that in order for individuals to take action, they must have the motive, means, and opportunity. When one of these is lacking, action will not occur. **(7)** Based on literature reviews, this study includes eleven factors (CPA awareness, futility, incentive, support, professionalism, recognition of patients and community toward CPA, cost, knowledge on process of accreditation, availability of pharmacists, standard of pharmacy and law enforcement) that influence motivation and result in pharmacists' decision to enroll in CPA program. The factors, however, are presented according to the three types: motive, means and opportunity as show in Figure 1.1.

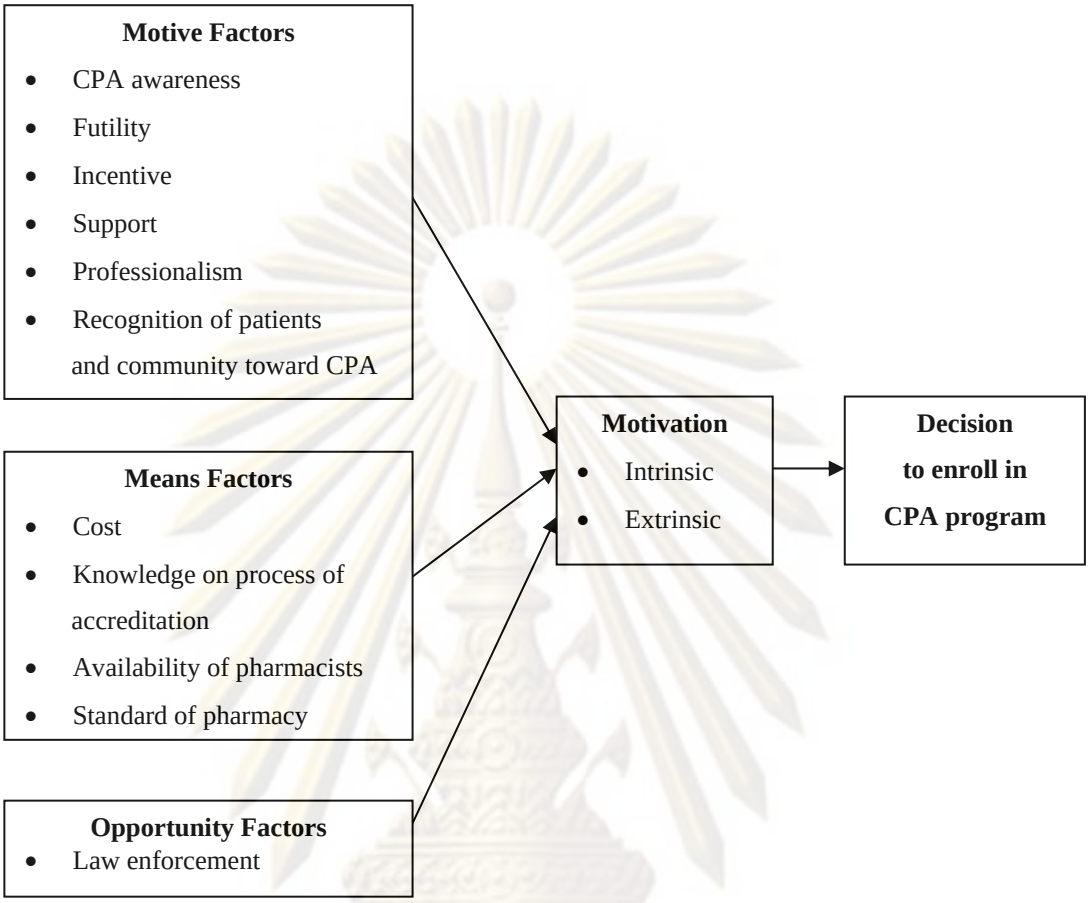

Figure 1.1 Conceptual framework of the study

Motivation is divided into two types as intrinsic motivation (the self-generated factors that influence pharmacists to behave in a particular way or to move in a particular direction) and extrinsic motivation (what is done to or for pharmacists to motivate them). **(8)** It is used to explain the forces acting on pharmacists' decision to enroll in CPA program and also describes how organizations could do to encourage pharmacists to apply their efforts and abilities to enroll in CPA program. **(9)** In process of decision making, pharmacists will make decision whether (yes or no decision) to enroll in CPA program. **(10)**

CHAPTER II
LITERATURE REVIEWS

Pharmacy has long been a place of primary care services, which is of important, dependant, and close to people and communities before the establishment of hospitals. Numbers of studies indicated that 60-80% of people first look for health services from pharmacies when they got sick. Patients spend 45% of total drug consuming values at pharmacies. These reflect the significance of pharmacies to Thai people. **(11)** This chapter provides background of CPA program and composes of five main parts as following.

2.1 Community Pharmacy Accreditation (CPA) program

Factors that influence the future trends of pharmacy are highly competitive market, strictly control of professional practices, more coverage and efficiency health insurance system, and increasing consumer's capability. These determinants affect pharmacies to improve quality of their services. Since 2002, the Thai FDA and the Thai Pharmacy Council in collaborations with other related organizations have worked together on CPA program to encourage community pharmacies to develop their services on condition of Good Pharmacy Practice (GPP). **(2)**

2.1.1 What is CPA program?

CPA program is a program or system for providing public confidence and a tool for improvement related to the Thai community pharmacy's standard practice guideline. This tool is used by the Pharmacy Council to facilitate and monitor service quality of community pharmacies.

CPA comprised essential level of quality in a community pharmacy through a process that examines premises, equipment and facilities (standard I); quality management (standard II); good pharmacy practice (standard III); laws, regulations and ethics (standard IV); and services and community participation (standard V).

The purposes of CPA program are

- To ensure service quality through the use of standards and rigorous evaluation criteria

- To stimulate community pharmacies toward higher levels of quality and efficiency
- To provide a system for public trust and accountability

In the past, pharmacies were nationally controlled and regulated by the Ministry of Health under the Drug Act 1967. After the establishment of the Hospital Accreditation in Thailand since 1995 and recent studies of pharmacist participation on physician rounds in the intensive care unit, it was determined that pharmacy service could be a powerful means of reducing adverse drug events (ADEs). And pharmacies with full-time pharmacists should be a set of primary care unit in the community. In addition, measuring quality also provides an important framework for quality improvement. The use of accreditation provides providers and consumers of health care a mechanism for ensuring value, and provides health care providers or pharmacists with a means of documenting their worth and improving their service. **(12)**

2.1.2 The process of CPA program in Thailand

Accreditation generally is accomplished through government agencies and is often mandated by law but for the CPA program in Thailand is different, CPA enrollment is voluntary with non-governmental review process. It is a continuous process after the establishment of the Thai Community Pharmacy's Standard Practice Guideline by the Pharmacy Council supported by the Thai FDA and the Community Pharmacy Association (Thailand). The Pharmacy Council has originated the "CPA program" to accredit good quality pharmacies with the intention to raise standard of practice and services provided by community pharmacies. Once a pharmacy is accredited it agrees to abide by the standards set of the Pharmacy Council and to be measured against those, with periodic integrity and compliance review.

Process of CPA program in Thailand, like accreditation system around the world consists of three basic characteristics including self-study or evaluation, external inspection and recommendations.

2.1.2.1 Step 1: Self-study or evaluation

Self-study is at the core of accreditation. Responsible pharmacists in the applied pharmacy do comprehensive questions of all aspects of their mission, programs, and services. This process involves all of whom contribute to the creation of

a report detailing their findings. The applied pharmacy can submit the application form for the survey with its self-evaluation worksheet whenever it is ready for the inspection. If still not, the pharmacy can join each training course for development again and again and sometime there is a promotion period that a group of promoters will help facilitate and support on site at each pharmacy as required.

2.1.2.2 Step 2: External inspection

After self-evaluation, pharmacists must declare their readiness to the Pharmacy Council for inspection. The fee is 3,000 baht per round. After checking all documents (about 2 weeks), a site visit is conducted to assess the strengths and weaknesses of the pharmacy by a professional team, usually 2-3 pharmacist experts, from the Pharmacy Council. This external inspection is conducted to determine if the pharmacy is in compliance with established accreditation criteria through the review of self-evaluation, physical setting inspection, interview with the pharmacist, staff, as well as customers, and observation of actual service process. The surveyors do not judge directly whether the care or service given to a specific customer is good or bad, right or wrong. Rather, they determine what activities are carried out, how well they are performed and, where possible, the resulting effects or outcomes for customers of various types. The surveyors use scoring guidelines to assist them in making judgments about standards compliance in specific performance areas. Then the surveyor team will offer advice after finishing the external inspection and then writes its own report and recommendations sending to the particular pharmacy within thirty days after the visit. Upon getting the report, the pharmacy may improve and develop its quality as suggested, then send the progress report with the photos or reference documents to the survey committee.

2.1.2.3 Step 3: Recommendations from accredited committee

When the self-study and external inspection are complete, final recommendations are made by the survey committee to a commission body for approval consideration. Related standards are grouped into performance areas, each of which is scored. The performance area scores are combined to produce the community pharmacy’s overall score. The overall score is based upon 60. In almost all cases, that score, along with related performance considerations, determines the category of accreditation. At least 40 scores of the overall performance with no under-standard in

each category will be considered satisfied. Both the evaluation report and that of the site visit team are used to determine whether to grant, continue, reaffirm, or withdraw accreditation. With all of the information at their disposal, a final recommendation is made by the commission or governing body. After receiving accreditation, the community pharmacy is required to remain in compliance with all standards during its three-year (first launch = two years – the first batch of accredited pharmacies should be expired since September 2005, but the Pharmacy Council had announced to postpone on 2006) accreditation cycle.

The commission body for CPA originally plans to have 2-3 rounds per year (in March, June and September) for accreditation review and decision. However, it also depends on the number of accredited pharmacies to review. So far, there are not enough pharmacies applying to CPA program, and then there generally was once (or twice) per year for the meeting. **(12)**

2.1.3 The Thai community pharmacy's standard practice guidelines, "The standard of pharmacy" by the Pharmacy Council

Standard of pharmacy by the Pharmacy Council for CPA program consists of 5 sections in the following: **(13)**

Standard I: Premises, equipment and other facilities

This intends the pharmacy to have the physical contents supporting high quality services, including an adequate separated service area, proper storage, product categorization and shelving. The details are as follows.

1.1 Premises

1.1.1 Must be situated in a strong, permanent building and have adequate space for pharmacy services.

1.1.2 Must be tidy, have adequate lighting and ventilation, and also a fire extinguishing system.

1.1.3 Must be able to control the environment of the storage to be suitable for storing each product.

1.1.4 Must have the pharmacist's service area that appears to customers to be an obviously separate area.

1.1.5 Must have a private and appropriate area for counseling.

1.1.6 Must provide customers with an area exhibiting health education materials. Materials intended for commercial advertisement must have their own area separate from the former.

1.1.7 Must clearly display the following:

1.1.7.1 Sign indicating the place is a licensed pharmacy;

1.1.7.2 Name and photograph of the on-duty pharmacist with license number and time on duty;

1.1.7.3 Other signs and plates as required by laws and regulations for specific licenses or drugs, and

1.1.7.4 Signs indicating the area for each service such as the areas required in 1.1.4 and 1.1.5 and any other as appropriate.

1.2 Equipment

1.2.1 Must have the equipment necessary for drug monitoring such as weight scales, height scales and thermometers.

1.2.2 Must separate the drug counting trays for Penicillines, Sulfonamides, NSAIDS and others.

1.2.3 Must keep the equipment clean and prevent contamination.

1.2.4 Must have a refrigerator for drugs that must be kept within 1-8°C under consistent temperature control and a record of same.

1.2.5 Drug containers

1.2.5.1 Must be the original containers with the legal class of the medicine identified.

1.2.5.2 Must be suitable for dispensing to patients and able to protect the drug from deterioration.

1.3 Facilities

1.3.1 Must have resources, text books or other facilities to access necessary information.

1.3.2 Must have auxiliary labels and documents to support services as appropriate.

1.3.3 Should have tools and equipment enhancing patient compliance.

Standard II: Quality management

This intends to ensure that the management process will encourage continuous quality improvement, ability to satisfy the real needs of customers and prevent adverse consequences from pharmacy practice. This covers the matters of personnel and quality assurance. The details are as follows.

2.1 Personnel

2.1.1 Operators

2.1.1.1 Must be licensed pharmacists and be at the pharmacy during the service hours.

2.1.1.2 Must clearly identify themselves as on-duty pharmacists by putting on a uniform as specified by the Pharmacy Council.

2.1.1.3 Should have good social relations and the ability to communicate appropriately.

2.1.1.4 Must have good personal hygiene.

2.1.2 Assistants (if any)

2.1.2.1 Must clearly identify themselves as assistants and not as pharmacists.

2.1.2.2 Must provide services under the supervision of the on-duty pharmacist.

2.1.2.3 Must have good personal hygiene.

2.2 Quality assurance

2.2.1 Must have all the necessary documents such as prescriptions, categorized related regulations and standard practice guidelines.

2.2.2 Must have an appropriate document and information storage system.

2.2.3 Must display clearly patients' rights.

2.2.4 Must perform risk analysis and establish a risk management method.

2.2.5 Must perform identification of the real needs of customers.

2.2.6 Must keep a service record for patients who need continuous tracking such as those who have chronic diseases. Records include, for instance, drug allergies, incidence and nature of adverse reactions to drugs and health products usage.

2.2.7 Must perform a double check on processes concerning customers to reduce errors.

2.2.8 Must establish and track key quality indicators such as customer satisfaction and number of patients with drug profiles.

2.2.9 Must continuously participate in pharmacy related continuing education and life-long learning.

Standard III: Good pharmacy practice

This intends to ensure that the operators' services will be conducted under good pharmacy practices resulting in customer satisfaction beyond their expectations. The details are as follows.

3.1 Drug procurement and storage

3.1.1 Must establish selection criteria for drugs and health products available in the pharmacy such as GMP certificated products.

3.1.2 Must have proper storage conditions to maintain the quality and safety of drugs.

3.1.3 Must have an effective system to manage drug expirations.

3.1.4 Must have a controllable and auditable system for the dispensing of narcotic drugs, psychotropic substances and other specially controlled drugs.

3.1.5 Must maintain a reserve of first-aid and life saving drugs and products for emergency cases such as antidotes that conform to the local community's needs.

3.2 Good pharmacy practice

3.2.1 Must promote and encourage proper drug usage.

3.2.2 Must identify the true customers, their needs and expectations through interview and review of their drug profile (if any) before dispensing drugs.

3.2.3 On prescription appraisal

3.2.3.1 Must be able to analyze and determine if the prescription is suitable for the patient.

3.2.3.2 Must consult with and have permission from the prescriber before making any change to a prescription.

3.2.4 On the dispensing process

3.2.4.1 Drugs must be dispensed by the pharmacist.

3.2.4.2 Dispensed drugs must have a label indicating

a. pharmacy's name,

b. patient's name,

c. dispensing date,

d. drug's trade name,

e. drug's generic name,

f. directions for use,

g. precautions, and

h. expiration date.

3.2.4.3 Must explain to the customer the usage of the drug and proper behavior with respect to the drug in both verbal and written form at the time of dispensing.

3.2.4.4 Should not hand the drug to a child below 12 years of age without knowing the child's intention. If necessary, dispensing must follow a clearly and properly established protocol.

3.2.4.5 No narcotic drug or psychotropic substance may be handed to a child below 12 years of age in any case.

3.2.5 Must conduct and keep drug profiles of patients who need continuous tracking.

3.2.6 Must track drug usage results to improve usage and advisory in accordance with accepted methods and ethics.

3.2.7 Must have a clear and concrete referral protocol.

3.2.8 Must have criteria for drug counseling.

3.2.9 Must monitor the adverse effects of drugs and health products and report incidents to the concerned authorities when found.

3.2.10 Must cooperate with other health professionals for the most effective remedies.

Standard IV: Laws, regulations and ethics

This intends to control the pharmacy's operations to comply with laws, regulations and also ethical guidelines. The details are as follows.

4.1 Must not operate while the license is suspended or withdrawn.

4.2 Must comply with laws and regulations including keeping records and documents required by law.

4.3 Must not possess unlicensed or illegal drugs.

4.4 Must keep prescriptions and other related documents for at least 1 year at the pharmacy. Must also record the drugs dispensed under prescription.

4.5 Must respect patient confidentiality and have protection for patients' personal data.

4.6 Must not dispense prescribed drugs during the absence of the on-duty pharmacist.

4.7 Operators must behave professionally and not discredit the pharmacy or any other profession.

Standard V: Services and community participation

This intends to make the pharmacy a place that serves the community and a place that cooperates with the community in the identification and solving of drug and health related problems. The details are as follows.

5.1 Must provide the community with information and advice regarding poisonous substances and narcotic drugs with regard to

the prevention, treatment and remedy of illnesses. Must also participate in campaigns against narcotics.

5.2 Must cooperate with authorities in reporting and giving information about illegal drugs and narcotics.

5.3 Must provide the community with information and advice regarding drugs and health that will benefit the community in illness prevention and health promotion.

5.4 Must help promote correct drug usage in the community.

5.5 Must participate in preventing problems related to improper drug usage in the community.

5.6 Must not produce or sell products that are harmful to health such as alcohol and cigarettes.

2.1.4 Benefits of CPA program

2.1.4.1 Benefits to consumers

Accreditation means customers gain a better service through continuity and clarification of the community pharmacy services relating to medicines, health products, and their health problems. Community pharmacists were the health consultants as needed.

2.1.4.2 Benefits to accredited pharmacies

- Gain trust and respect from the patients and this may lead to the customer loyalty
- Enhance their reputation in the community
- Use established criteria for service programs and operations
- Develop a systematic method for improvement and managing change
- Expand peer relationships and professional networking opportunities
- Comply with the Thai FDA policy **(12)**

2.1.5 Further development for CPA program

While accreditation provided a means for external review of community pharmacy quality, they were mainly for consumer use. The information was presented

for the benefit of customers and consumers of health care, who might use the information to make informed choices about whether or not they wish to use a particular pharmacy. However, they had no regulatory authority.

To earn and maintain accreditation, an internally motivated effort in quality improvement was necessary. These efforts must focus on all aspects of pharmacy practice, not just product or service oriented measures. The Pharmacy Council, the Community Pharmacy Association, the FDA, and the Pharmacies Organizations also need to be represented in discussions of health care quality which involve or otherwise impact the activities of pharmacists. Furthermore, the benefits and risks of such activities must be critically examined to ensure the best interests of pharmacists and the customers they serve.

Survey teams usually included two or three pharmacy professionals –who had senior management level experience in standard guidelines. To be more accepted, additional surveyors with particular expertise in consumer protection may be added to the team. All receive continuing education to keep surveyors up-to-date on advances in quality-related performance evaluation were also needed.

Another point of view was that the standard guidelines and the accreditation process were derived from the professional perspective. As it was originated in customer-based system, the development of a tool in customer perspective was the next thing to do. “The proof was left to the customer!” **(12)**

Enough numbers of quality pharmacies would assist them to become parts of National health insurance system, such as 30 Baht Universal Healthcare Scheme, and Social Security Scheme. In addition, the technical support from Federation of international pharmacy resulted in reasonable drug utilizations because the quality pharmacies provided quality and standard services according to good pharmacy practice. **(14)**

2.2 Current situation and problems of enrollment in CPA program

The number of community pharmacies in Thailand continually increased from 9,870 modern pharmacies (4,723 as type I pharmacies and 5,147 as type II pharmacies) in the year 1996 to 14,285 modern pharmacies (10,052 as type I pharmacies and 4,233 as type II pharmacies) in the year 2008. **(15)**

Number of accredited pharmacy in Thailand has been continually increased from 26 accredited pharmacies (0.39 %) in 2002 to 316 accredited pharmacies (3.14 %) in 2008 as show in Table 2.1. **(4)**

Table 2.1 Number and percentage of accredited pharmacies in Thailand during the year 2002 – 2008

Year	**Number of type I pharmacy**	**Number of accredited pharmacy**	**Percentage of accredited pharmacy**
2002	6,658	26	0.39
2003	8,225	78	0.95
2004	8,392	91	1.08
2005	8,801	101	1.15
2006	8,858	136	1.54
2007	10,019	183	1.83
2008	10,052	316	3.14

Source: The Office of Pharmacy Advancement Program, 2009.

In 2006, the Secretary General of the Thai FDA planned to get about 500 accredited pharmacies and set target to raise the number of accredited pharmacy at least twenty percents from all of type I pharmacies in every provinces. **(3)** Until December of 2008, there were only 316 accredited pharmacies in 50 provinces as show in Table 2.2. **(4)**

Table 2.2 Total of 316 accredited pharmacies in Thailand by province in December 31, 2008

Province	Number of accredited pharmacy	Number of type I pharmacy	Percentage of accredited pharmacy
Bangkok	114	3,798	3.00
Chachoengsao	4	85	4.71
Chaiyaphum	2	34	5.88
Chanthaburi	4	36	11.11
Chiang Mai	11	240	4.58
Chiang Rai	3	79	3.80
Chonburi	19	318	5.97
Khonkaen	9	133	6.77
Krabi	4	81	4.94
Lopburi	1	44	2.27
Mahasarakham	3	50	6.00
Mukdahan	1	21	4.76
Nakhonpathom	7	207	3.38
Nakhonphanom	1	39	2.56
Nakhonratchasima	11	164	6.71
Nakhonsawan	5	103	4.85
Nakhonsithammarat	2	84	2.38
Nongbualamphu	1	22	4.55
Nongkhai	1	30	3.33
Nonthaburi	10	461	2.17
Pathumthani	10	381	2.62
Pattani	3	31	9.68
Phayao	1	31	3.23
Phetchabun	1	25	4.00
Phetchaburi	2	69	2.90
Phitsanulok	7	62	11.29
Phrae	2	42	4.76
Phranakhonsi Ayutthaya	2	194	1.03
Phuket	11	183	6.01

Table 2.2 Total of 316 accredited pharmacies in Thailand by province in December 31, 2008 (cont.)

Province	Number of accredited pharmacy	Number of type I pharmacy	Percentage of accredited pharmacy
Prachinburi	1	68	1.47
Prachuapkhirikhan	4	78	5.13
Ranong	1	22	4.55
Ratchaburi	2	103	1.94
Rayong	6	95	6.32
Roiet	1	41	2.44
Rumphun	1	35	2.86
Sakonnakhon	1	38	2.63
Samutprakan	6	535	1.12
Samutsakhon	2	166	1.20
Samutsongkhram	1	21	4.76
Saraburi	2	92	2.17
Singburi	1	35	2.86
Sisaket	2	38	5.26
Songkhla	9	180	5.00
Suphanburi	1	108	0.93
Suratthani	11	180	6.11
Trang	1	78	1.28
Ubonratchathani	5	95	5.26
Udonthani	5	125	4.00
Yasothon	1	14	7.14

Source: The Office of Pharmacy Advancement Program, 2009.

In 2008, Nakhonratchasima province had 331 modern pharmacies which divided in 164 type I pharmacies and 167 type II pharmacies. Most type I pharmacies locate in urban area but most type II pharmacies locate in rural area as show in Table 2.3. Among 167 type I pharmacies, there were 50 type I pharmacies with full-time pharmacists which were divided in 45 owning pharmacies and 5 franchise pharmacies. **(5)**

Table 2.3 Data of pharmacies in Nakhonratchasima province in December 31, 2008

Setting area	**Number of pharmacy**	
	Type I pharmacy	**Type II pharmacy**
Urban area	112	52
Rural area	52	115
Total	164	167

Source: Department of Health Consumer Protection in Nakhonratchasima, 2008.

There were three accredited pharmacies in the first batch of CPA program in 2002. Number of accredited pharmacy has been continually increased. Until December of 2008, there were eleven accredited pharmacies (6.71 %) from all of type I pharmacies as show in Table 2.4. Nakhonratchasima Provincial Public Health Office conducted post-marketing monitor of pharmacy at least once a year. The major problem found in pharmacies was expired drugs violations**. (5)**

Table 2.4 Number of accredited pharmacies in Nakhonratchasima during the year 2002 - 2008

Year	**Number of new accredited pharmacy**	**Number of total accredited pharmacy**
2002	3	3
2003	2	5
2004	0	5
2005	0	5
2006	0	5
2007	3	8
2008	3	11

Source: Department of Health Consumer Protection in Nakhonratchasima, 2008.

2.3 Related research

There are seven studies related to CPA program in Thailand which are summarized in six topics as following:

2.3.1 Reasons and incentives for enrollment in CPA program

The reasons and incentives of 15 accredited pharmacy owners in Bangkok and its vicinity for enrollment were cooperation with the Pharmacy Council, and pharmacy profession development to be acceptable and reliable in public health sector. Premises, equipment and quality control process were three main parts which pharmacy owner had to change for enrollment. They thought that it was few changes and did not increase responsible investment and little impact to them. Preparative period for enrollment was different from 3-4 days to 1 year, depended on preparedness and size of pharmacy. All pharmacy owners said “It was not hard to get accredited pharmacy if pharmacy owner was pharmacist and performed though standard of pharmacies”. Alterations after got accredited pharmacy were reliability, increasing customer, improvement of quality control process (such as quality service, easy to control expired drug, nice and orderly pharmacy), circulation’s receiving along with expectation, and proud of their competence. **(16)**

Accredited pharmacy had prominent intrinsic motivation compared to the non accredited one. The accredited pharmacy wanted to provide good pharmacy services to patients, wanted to be recognized as a health provider from medical staff and from patients. Holding some specific status was also a drive to join CPA program such as being university’s drug store, being the chairman of Drugstore Club (Thailand), having firmed economic status etc. They saw value of being accredited pharmacy that they had opportunity to provide good pharmaceutical care to the patients. For the non-accredited ones, they said that accredited pharmacy program was just a politic program. They did not see any benefit of being accredited. They said that the consumers could not differentiate between the accredited and the non-accredited pharmacy anyway. The criteria of accreditation was also obstacle for the development of CPA program. Promoting the pharmacy accreditation program might need some psychological approaches. Psychological techniques should be applied to build up intrinsic motivation not the extrinsic motivation. **(17)**

2.3.2 Barriers for enrollment in CPA program

The major barriers for CPA enrollment in 53 pharmacy entrepreneurs who did not enroll in CPA program in Nakhonpatom were “availability of pharmacist during pharmacy work-hours” criteria (64.2%), the funding for restoring and decorating pharmacy according to the Standard of Pharmacies (56.6%), and the non motivation of business benefit and non potential increasing competition from enrollment (26.4%). Some entrepreneurs were not confident in the monitoring process for maintaining the quality of accredited pharmacy (47.2%) and the procedure for the accreditation (32.1%). **(18)**

Progress report of the second conference of Community Pharmacy Development and Accreditation Program’s committee in 23 August 2005 showed barriers on implement process of CPA as following**: (19)**

A) Lack of research’s support to input pharmacy into health insurance system
B) Not enough incentive for CPA enrollment
C) Shortage of GPP Development for compulsory
D) Deficiency of pharmacist during pharmacy work-hours criteria
E) Less cooperation from supporter (especially Provincial Public Health Office) to support and advice pharmacy in program’s development.
F) Community pharmacists in pharmacy had a shortage of professional practice development

2.3.3 Difficulty of getting accredited pharmacy

To get community pharmacists change from their daily traditional practices to a new good pharmacy practices was somewhat a change of attitude and behavior. Transtheoretical model was chosen to explain the difficulty of getting accredited pharmacy and was found to fit well with the situation. If the community pharmacists were in the pre-contemplation stage, they were not intended to take any action although they could foresee the benefit of change. If they were in the stage of making a decision between pros and cons of getting change, in other word, they were in contemplation stage, it was important to point out the benefit they would get over the cost they had to pay. The proposed benefits of getting accredited would be: being included into the national health universal coverage program, being recognized as a pioneer in providing good community pharmacy practices, getting support from the

community pharmacy association and from the FDA, and having a better carrier path in community pharmacy. Any one who could go beyond the pre-contemplation and contemplation stages, they would easily go into preparation and action stages without any delay. However, it was not known for sure whether the ones who get accredited would be well maintained their stage of being accredited **(20)**.

2.3.4 Opinions on standard of pharmacy by the Pharmacy Council

Opinion on the most inappropriate pharmacy standard was Standard 1: premises, equipment and facilities, and this were followed by Standard 4: laws, regulations and ethics. Pharmacists' opinion toward 5 items of standard requirement for good pharmacy demonstrated that the personnel and promotion of rational drug use (article 2.1) in the second item and article 5.4 in the fifth item of standard considered the most important for fulfilling the requirement. Problems in pharmaceutical care services were ranked in order of severity: absence of full-time pharmacist (75%), deviation from quality of pharmaceutical care to profit gain due to high market competition (62.5%), lack of knowledge-based proficiency (50%). **(21)**

Study of pharmacy owners' opinion on Pharmacy standards of the Pharmacy Council in phase 1 (survey by posting of pharmacies throughout Thailand, response rate was 24.85% = 3,240 pharmacy owners) and phase 2 (in-depth interviews with three purposively selected pharmacy owners who had not enrolled in CPA program) in Thailand indicated that Standard 2.2 (quality assurance) was rated the most difficult to comprehend, the least implemented at the moment, and the most unlikely that the stores will adopt in the future. This was followed by Standard 3.2 (good pharmacy practice), especially information on the medicine pouch and patient medication profile. The following in-depth interviews confirmed these findings. The owners were reluctant to enroll on CPA program because of lack of financial incentives and failure to understand the meaning of Standards. The most problematic items were Standards 2.2 and 3.2. The results warrant urgent actions of the Pharmacy Council and the FDA to promote and familiarize pharmacy owners with these standards. In addition, positive reinforcement and supports need to be incorporated to persuade pharmacies to enroll on CPA program. **(22)**

2.3.5 Customer satisfaction towards services of accredited and non-accredited pharmacies

Customer satisfaction towards services of accredited and general pharmacies between November 15 and December 15, 2004 was rated on a scale from 1 (should be improved) to 5 (excellent). Fifty customers of five accredited pharmacies and another 50 customers of four general pharmacies, matched in selected characteristics to the accredited pharmacies, were interviewed. The average satisfaction scores for accredited and general stores in three aspects of services were as follows: 1) 4.03 $\pm$ 0.77 and 3.82 $\pm$ 0.81 for place and service supports, 2) 3.92 $\pm$ 0.87 and 3.50 $\pm$ 0.98 for pharmaceutical services and administration, and 3) 4.19 $\pm$ 0.70 and 4.19 $\pm$ 0.68 for medicines and medical devices. The results showed that customer satisfaction scores towards services received from accredited pharmacies for the first and second aspects were higher than those towards services from non-accredited pharmacies. This finding can be viewed as one indicator of the achievement of objectives of the community pharmacy development and accreditation. **(23)**

2.3.6 Suggestions for CPA program

The strategies for managing CPA program were to increase public awareness and draw attention of the consumers and pharmacy owners, especially the consumers' benefit from the accredited pharmacy's service. This consumer's awareness would then demand the pharmacy owners to enroll in CPA program. However any strategy encouraging the entrepreneurs to enroll in CPA program should also considered together with business benefit.

Most pharmacists didn't realize the importance of CPA program. Pharmacy Council should support manpower for counseling, set advice system for enrolled pharmacy, setting the model of accredited pharmacy as an example to other pharmacies, publicize advantage of program, indicate that it was not too hard for enrollment and make incentive for enrollment, and making visions of good point which accredited pharmacies differed from general pharmacies.

Strict points of standard which were hard to implement and unlikely to adopt should be decreased, but pharmacy should be sporadically and extremely reaccredited. Some points of rules should be decreased and benefit of CPA program should be increased (such as allow to dispense some of controlled drug or some of special

controlled drug). Strong impulsion in law and regulation for pharmacy: new pharmacy should be accredited pharmacy. **(16)**

2.4 Factors influencing decision for enrollment in CPA program

The CPA program was not mandatory, it established for pharmacy entrepreneurs who were interested to enroll in CPA program. Even though this program was good and beneficial for customers, and had privileges for enrolled pharmacies in early period of this program (such as software for retail pharmacy's management, and low rate of loan's interest with no collateral from SME Bank) **(14)**, there was not a large number of accredited pharmacies when compared with number of all type I pharmacies. The reasons for pharmacy entrepreneurs' enrollment in CPA program were cooperation with the Pharmacy Council, and pharmacy profession development to be acceptable and reliable in public health sector. **(16)** Seven related researches were reviewed and summarized the major barriers of pharmacy entrepreneurs for enrollment in CPA program as following:

2.4.1 Incentive

Some pharmacy owners indicated their opinions that they were reluctant to enroll on CPA program because of lack of financial incentives, non potential increasing competition and not enough incentive for enrollment. **(16, 18, 21)** Thus, the strategies for managing CPA program were to increase public awareness and drew attention of the consumers and pharmacy owners, especially the consumers' benefit from the accredited pharmacy's service. This consumer's awareness would then demand the pharmacy owners to enroll in CPA program. However any strategy encouraging the entrepreneurs to enroll in CPA program should also considered together with business benefit. **(18)**

2.4.2 Support

2.4.2.1 Advice

Most pharmacists didn't realize the important of CPA program because of less cooperation from supporter that were the Thai FDA, the Pharmacy Council, and department of provincial health consumer protection. Pharmacy Council should set advice system, support manpower for counseling, and set model of accredited

pharmacy as an example to other pharmacies. Provincial Public Health Office should advice pharmacy in program's development. **(16)**

2.4.2.2 Public promoting

This program was not well-know, concerned organizations should continually increase public promoting, draw attention of the customers and pharmacy owners especially consumers' benefit from the accredited pharmacy's service, made advantage of accredited pharmacy over non-accredited pharmacy, and indicate that it was not too hard for enrollment.**(16)**

2.4.3 Availability of pharmacists during pharmacy work-hours criteria

The major barriers for enrollment in CPA program were "available pharmacist during pharmacy work-hours" criteria. **(18)**

2.4.4 Cost

Cost for restoring and decorating pharmacy according to the standard of pharmacy by the Pharmacy Council was major barriers for enrollment in CPA program. **(18)**

2.4.5 Procedure for accreditation

Some pharmacy entrepreneurs were not confident in the procedure for the accreditation and the monitoring process for maintaining the quality of accredited pharmacy. **(18)**

2.4.6 Standard of pharmacy by the Pharmacy Council

2.4.6.1 Concept of standard

The owners were reluctant to enroll in CPA program because of failure to understand the concept of standards. The most problematic items were Standard 2.2 and 3.2. **(22)**

2.4.6.2 Inappropriate standard

Opinion on the most inappropriate standard of pharmacies was Standard 1: premises, equipments and facilities, and this were followed by Standard 4: laws, regulations and ethics. **(19)**

2.4.6.3 Strict points of standard

Strict points of standard which pharmacies found difficult to implement and unlikely to adopt should be decreased, but pharmacy should be sporadically and extremely reaccredited. **(19)**

2.4.7 Laws and regulations

Strict points of standard which were hard to implement and unlikely to adopt should be decreased, but pharmacy should be sporadically and extremely reaccredited. Some point of rules should be decreased and benefit of CPA program should be increased (such as allow to dispense some of controlled drug or some of special controlled drug). Strong impulsion in law and regulation for pharmacy: new pharmacy should be CPA. **(16)** Shortage of GPP Development for compulsory was the barrier on implement process of CPA program. **(19)**

2.5 Theory (Motivation, Decision making and Professionalism)

This part explains three major relevant theories: motivation theory, decision making theory and professionalism theory.

2.5.1 Motivation theory

Motivation is the concept to describe the forces acting on or within an organism to initiate and direct behavior. The concept of motivation is used to explain differences between the intensity of behavior and indicate the persistence of behavior. More intense behaviors are considered to be the result of higher levels of motivation. A highly motivated behavior will often be persistent even though the intensity of the behavior may be low.

Motivation theory examines the process of motivation. It explains why people at work behave in the way they do in terms of their efforts and the directions they are taking. It also describes how organizations could do to encourage people to apply their efforts and abilities in order to achieve their goal. **(9)**

2.5.1.1 Types of motivation

Four types of motivation can be described as following:

A) Intrinsic-extrinsic motivation

Intrinsic motivation – the self-generated factors that influence people to behave in a particular way or to move in a particular direction. These factors include

responsibility (feeling that the work is important and having control over one's own resources), freedom to act, scope to use and develop skills and abilities, interesting and challenging work and opportunities for advancement. **(8)** Intrinsic motivation occurs when you are passionate about a task and perform it for the sheer pleasure of it. The motivator resides within you.

Three important components that must be present for an individual to be intrinsically motivated:

> "Competence" - Competence is the need to perceive oneself as successful at achieving a task or an activity. To feel competent, a person must believe he has the knowledge and skill to perform the task, as well as the environmental support and structure to do it. Competence can be achieved by training the employee on the skills and knowledge to accomplish a task and by support with the necessary time, tool, and resources.
>
> "Autonomy/Control" - Autonomy is the perception that one has a choice in performing the task and is not influenced by any other source in making that determination. A sense of autonomy must be present for intrinsic motivation to occur. Control is the reverse of autonomy. In other words, if someone feels competent, but controlled, that will lead to extrinsic motivation. Control occurs when the employee senses that he or she does not have a choice in the matter or is influenced by some external source. This undermines the sense of passion or pleasure that arises from performing the task. Often managers fear letting go of the control and supporting autonomy. However, what the manager must realize is that supporting autonomy does not imply a permissive excuse for "anything goes." Rather, the manager can provide choices for prioritizing and accomplishing a task that result in the achievement of a pre-specified organizational goal. These types of choices are presented within the reality of the work environment and the boundaries necessary for team, division, and company success.
>
> "Relatedness" - Relatedness is the feeling that one is emotionally tied to significant others in his life. **(24)**

Extrinsic motivation – what is done to or for people to motivate them. This includes rewards, such as increased pay, praise, or promotion, and punishments, such as disciplinary action, withholding pay, or criticism. **(8)**

> "Reward" – Reward is strategy for externally motivating an individual, and they can work quite well. However, when rewards are used, intrinsic motivation decreases: The person no longer performs the task for its own sake, but to earn the reward. The focus is now different, and the consequence is obvious: when the reward disappears, but the task must still be completed, productivity, efficiency, and effectiveness all decrease, if not disappear.
>
> "Seeing Value" - Another motivating factor is for you to realize the importance, or the value, of performing a task. Though you are not doing the task because you freely and passionately want to do it, you have internalized its overall importance. This type of motivation is very close to intrinsic motivation. However, seeing value is still extrinsic because the sense of importance originates from an outside source. **(24)**

Extrinsic motivators can have an immediate and powerful effect, but it will not necessarily last long. The intrinsic motivators, which are concerned with the "quality of working life", are likely to have a deeper and longer-term effect because they are inherent in individuals and not imposed from outside. **(8)**

B) Maslow's hierarchy of needs

Abraham Maslow also developed a motivational theory that emphasizes the striving to reach one's full potential as basic to human motivation but also includes additional motives besides self-actualization. The wholeness of behavior can also serve several motive states at once. Motivations for much of our behavior may occur at an unconscious level. Maslow argued that human needs can be understood in terms of a hierarchy of needs. Needs lower on the hierarchy are proponent (stronger) and must be satisfied before needs higher on the hierarchy will be triggered. Maslow did not, however, regard the hierarchy as totally rigid: we can partly satisfy lower needs, thus allowing higher needs to become partly active. Maslow regarded the satisfaction of needs on the hierarchy in a probabilistic manner. If a lower need is being satisfied

most of the time (perhaps 85%), that need will have little influence on behavior, while other higher needs that are less satisfied will have a larger influence on behavior.

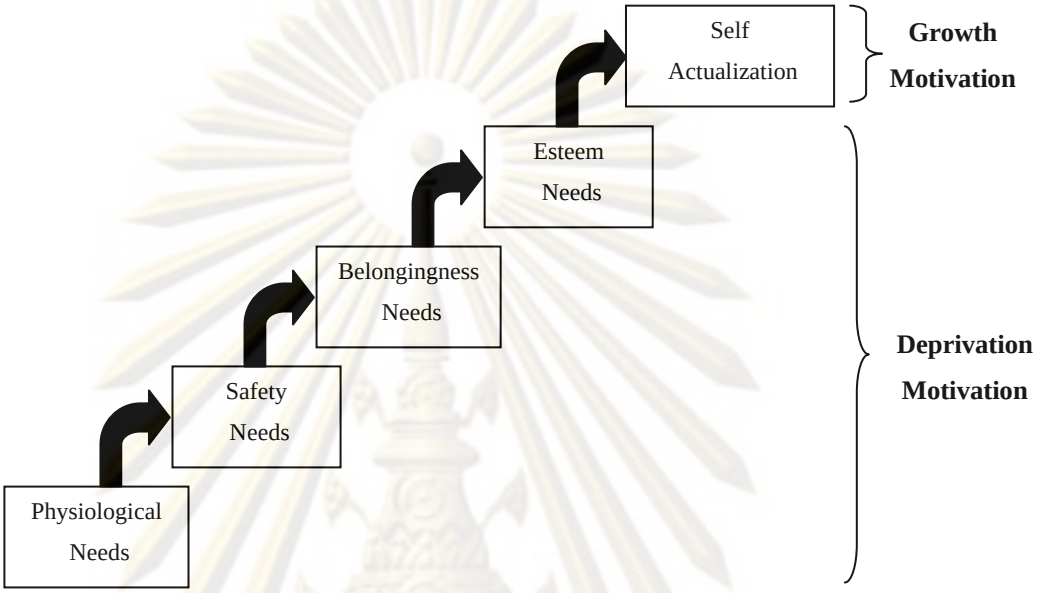

Figure 2.1 Maslow's hierarchy of needs

Maslow's hierarchy of needs as show in Figure 2.1 is explained as following:

1. Physiological Needs*:* The first level of the hierarchy consists of physiological needs. If needs such as hunger or thirst are not adequately being met, the needs above them on the hierarchy are pushed into the background in terms of controlling behavior. Physiological needs are adequately met for most people in our society. When these needs are met, the next need on the hierarchy emerges as a dominant force in controlling and directing behavior.

2. Safety Needs: Like the physiological needs, safety needs are triggered primarily in emergency situations. Higher needs become unimportant when life is endangered; behavior reflects attempts to become or remain secure.

3. Love or Belongingness or Social Needs: These needs involve a hunger for affectionate relationships with others, a need to feel part of a group, or a feeling that we "belong." The love needs require both the receiving and giving of love-love from another and someone to love. Love needs leads to behavioral maladjustment and pathology and is the most common basis for behavioral problems in our society.

4. Esteem Needs: These are needs for a positive, high evaluation of self. This evaluation can be broken down into two subcategories-a need for self-esteem and a need for esteem from others. The need for self-esteem motivates the individual to strive for achievement, strength, confidence, independence, and freedom. The need for self-esteem seems to have at its core the desire to feel worthwhile. The related need of esteem from others involves a desire for reputation, status, recognition, appreciation by others of our abilities, and a feeling of importance. When the esteem needs are satisfied, we have feelings of self-confidence and self-worth and see ourselves as having a purpose in the world. When these needs are frustrated, maladjustment can occur, typified by feelings of inferiority, weakness, and helplessness. Lack of esteem leads the individual to feel inconsequential and to have little self-worth. One suspects that Maslow would regard depression as triggered by inadequate satisfaction of the esteem needs.

"Deprivation Motivation" The first four steps on Maslow's hierarchy constitute the needs that must be satisfied before reaching the final level, the level of self-actualization. Maslow considered these needs to result from deficiencies in the person's life; that is, behaviors related to the first four categories are motivated by a deprivation of those things necessary for full development. Behaviors generated in attempts to fill these needs are therefore said to be activated by deprivation motivation. Maslow also believed that for some individuals chronically deprived at the physiological level, the higher needs might never emerge. On the other hand, Maslow also believed that people who have always had their basic needs satisfied will be less influenced by these needs later if the needs are suddenly no longer being met. As mentioned earlier, each level of the hierarchy does not have to be perfectly satisfied. As lower needs are partly met, higher needs partly emerge. As the lower needs become more and more satisfied, the higher needs become more and more prominent in the control of behavior.

5. Self-actualization or Self-fulfillment: Self-actualization is needs to develop potentialities and skills, to become what one believes one is capable of becoming. When we have satisfied the first four levels of need, the final level of development-which Maslow termed self-actualization-can be reached. At the self-actualization

level, the person's behavior is motivated by different conditions than at the lower levels. **(9)**

C) McClelland's achievement-affiliation-power needs

McClelland (1975) identified three needs as being most important:

1. Need for achievement, defined as the need for competitive success measures against a personal standard of excellence.
2. Need for affiliation, defined as the need for warm, friendly, compassionate relationship with others.
3. Need for power, defined as the need to control or influence others.

D) Reinforcement

Reinforcement theory as development by Hull (1951) suggests that successes in achieving goals and rewards act as positive incentives and reinforce the successful behavior which is repeated the next time a similar need emerges. Conversely, failure or punishments provide negative reinforcement, suggesting that it is necessary to seek alternative means of achieving goals. This process has been called the law of effect. **(8)**

2.5.1.2 Process of motivation

The process of motivation can be modeled as shown in Figure 2.2. This is a needs-related model and it suggests that motivation is initiated by the conscious or unconscious recognition of unsatisfied needs. These needs create wants, which are desires to achieve or obtain something. Goals re then established which it is believed will satisfy these needs and wants and a behavior pathway is selected which it is expected will achieve the goal. If the goal is achieved, the need will be satisfied and the behavior is likely to be repeated the next time a similar need emerges. If the goal is not achieved, the same action is less likely to be repeated. **(8)**

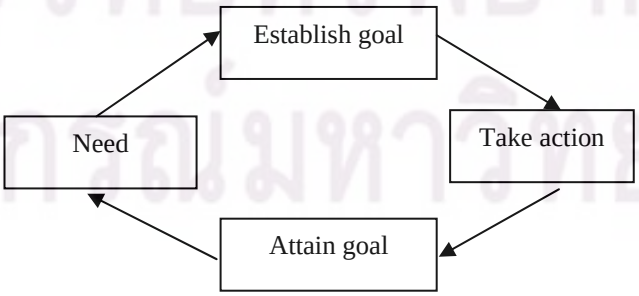

Figure 2.2 The process of motivation

2.5.1.3 Creating a motivating environment

A) When to create a motivating environment

Creating a motivating environment is essential in all management situations. However, it is important to identify when motivation or a lack thereof is the root cause of a performance challenge. Some key indicators that a motivation system intervention is needed are: **(24)**

- When an employee does not believe they are capable of completing a task – either stemming from an inability (they don't have the knowledge or skills) to perform the task or incapacity (the necessary resources or time) to perform the task. They might complain, "I don't know how to do that…"
- When the employee does not believe that he has a choice in performing the task.
- When an employee does not feel like she belongs to the organization or the team.
- When an employee sees no end in sight and believes that nothing he does matters.
- When an employee does not receive any kind of feedback about her performance.
- When an employee is more concerned about compensation and pay.
- When an employee is more concerned about peer approval or managerial approval.

B) Tips for creating a motivating environment (24)

- Engage. Involving employees is one of the criteria for a more intrinsically motivating environment. From the initial stages of designing a work environment that incorporates choice, competence and relatedness, engage the team in developing the best process for that group.
- Know your team. Since your team is made up of many different individuals with many different intrinsic motivators, get to know what their passions in life are, at work and beyond. Knowing

them, and letting them know you, is one of the best ways to increase a sense of belonging.

- Know your objectives and team goals. It is imperative to know the "facts" of what must be accomplished. You have goals, and your team has to meet them. These objectives make up your boundaries and establish the rules for what and when tasks must be completed
- Make sure you have resources and guides. One of the greatest inhibitors to intrinsic motivation (actually extrinsic, too) is organizational and functional barriers. Make sure that you have the resources – time, materials, etc. - available to your team.

C) Pitfalls to avoid

Avoid using only intrinsic motivation interventions as a short-term solution for immediately improving performance. It takes time to create a motivating environment, and most managers make the mistake of getting frustrated if an intervention doesn't work. While over the long-term, creating an environment where employees can see the significance of what they do has great merit; using rewards, punishment, or recognition, as a short-term behavioral modifier, can be effective. That said, be aware of the consequences. Money, reward structures, and bonuses do influence behavior, but they focus behavior on getting the external reward, not on really improving the task at hand. Once the external reinforcer goes away, performance will dip again, because the individual is not really motivated to perform. In a technologically rapid world, sometimes it is necessary to push behavioral modification through quickly. However, acknowledge to the employee that is what is being done, and strive to create, in parallel, a more work place where employees can find other, more intrinsically motivating factors (autonomy, relatedness, competence). **(24)**

2.5.2 Decision making theory

"Decision making is the study of identifying and choosing alternatives based on the values and preferences of the decision maker." Making a decision implies that there are alternative choices to be considered, and in such a case we want not only to

identify as many of these alternatives as possible but to choose the one that best fits with our goals, desires, lifestyle, values, and so on.

"Decision making is the process of sufficiently reducing uncertainty and doubt about alternatives to allow a reasonable choice to be made from among them." This definition stresses the information gathering function of decision making. If should be noted here that uncertainty is reduced rather than eliminated. Very few decisions are made with absolute certainty because complete knowledge about all the alternatives is seldom possible. Thus, every decision involves a certain amount of risk. **(10)**

2.5.2.1 Types of decisions

A) Decisions whether. This is the yes/no, either/or decision that must be made before we proceed with the selection of an alternative. Decisions whether are made by weighing reasons pro and con. It is important to be aware of having made a decision whether, since too often we assume that decision making begins with the identification of alternatives, assuming that the decision to choose one has already been made.

B) Decisions which. These decisions involve a choice of one or more alternatives from among a set of possibilities, the choice being based on how well each alternative measures up to a set of predefined criteria.

C) Contingent decisions. These are decisions that have been made but put on hold until some condition is met.

2.5.2.2 Process of decision making

Decision making is a recursive process. That is, most decisions are made by moving back and forth between the choice of criteria (the characteristics we want our choice to meet) and the identification of alternatives (the possibilities we can choose from among).

A) Identify the decision to be made together with the goals it should achieve. Determine the scope and limitations of the decision. When thinking about the decision, be sure to include a clarification of goals:

B) Get the facts as possible about a decision within the limits of time to process them. A decision based on partial knowledge is usually better than not making the decision when a decision is really needed. The proverb that "any decision is better than no decision," while perhaps extreme, shows the importance of choosing. As part

of collection of facts, list feelings, hunches, and intuitive urges. Many decisions must ultimately rely on or be influenced by intuition because of the remaining degree of uncertainty involved in the situation.

C) Develop alternatives. Make a list of all the possible choices, including the choice of doing nothing. Not choosing one of the candidates or one of the building sites is in itself a decision. But sometimes the decision to do nothing is useful or at least better than the alternatives, so it should always be consciously included in the decision making process. Also be sure to think about not just identifying available alternatives but creating alternatives that don't yet exist.

D) Rate each alternative. This is the evaluation of the value of each alternative. Consider the negative of each alternative (cost, consequences, problems created, time needed, etc.) and the positive of each (money saved, time saved, added creativity or happiness to company or employees, etc.). The alternative that might like best or that would in the best of all possible worlds be an obvious choice will, however, not be functional in the real world because of too much cost, time, or lack of acceptance by others. Also don't forget to include indirect factors in the rating.

E) Rate the risk of each alternative. In problem solving, you hunt around for a solution that best solves a particular problem, and by such a hunt you are pretty sure that the solution will work. In decision making, however, there is always some degree of uncertainty in any choice. Risks can be rated as percentages, ratios, rankings, grades or in any other form that allows them to be compared.

F) Make the decision. If you are making an individual decision, apply your preferences (which may take into account the preferences of others). Choose the path to follow, whether it includes one of the alternatives, more than one of them (a multiple decision) or the decision to choose none. **(10)**

2.5.2.3 Deciding and valuing

When we make decisions, or choose between options, we try to obtain as good an outcome as possible, according to some standard of what is good or bad. The choice of a value-standard for decision-making is the subject of moral philosophy. Decision theory assumes that such a standard is at hand, and proceeds to express this standard in a precise and useful way. **(25)**

A) Relations and numbers

B) The comparative value terms

C) Completeness

D) Transitivity

E) Using preferences in decision-making

F) Numerical representation

G) Using utilities in decision-making

2.5.3 Professionalism theory

Profession is an occupation whose members share 10 characteristics **(26)**

- Prolonged specialized training in a body of abstract knowledge
- A service orientation
- An ideology based on the original faith professed by members
- An ethic that is binding on the practitioners
- A body of knowledge unique to the members
- A set of skill that forms the technique of the profession
- A guild of those entitled to practice the profession
- Authority granted by society in the form of licensure of certification
- A recognized setting where the profession is practiced
- A theory of societal benefits derived from the ideology

Professional is a member of a profession who displays the following 10 traits **(26)**

- Knowledge and skill of profession
- Commitment to self-improvement of skill and knowledge
- Service orientation
- Pride in the profession
- Covenantal relationship with the customer
- Creativity and innovation
- Conscience and trustworthiness
- Accountability for his/her work
- Ethically sound decision making
- Leadership

2.5.3.1 Definition of pharmacy professionalism

A) Professionalism is a broad concept that is described in many different ways. It is often easier to discuss what professionalism is not, rather than what it is. Professionalism can be defined by the way it is demonstrated in practice, by its structural characteristics, by the beliefs held by those in the profession, or in a values-based manner. To get a better idea of how professionalism is demonstrated in practice, consider the following definitions:

- ‘‘conduct, aims or qualities that characterize or mark a profession or professional person.’’
- ‘‘active demonstration of the traits of a professional displaying values, beliefs and attitudes that put the needs of another above your personal needs.’’
- ‘‘basis of medicine’s contract with society. It demands placing the interests of patients above those of the physician, setting and maintaining standards of competence and integrity, and providing expert advice to society on matters of health.’’

Professionalism is displayed in the way pharmacists conduct themselves in professional situations. This definition implies a demeanor that is created through a combination of behaviors, including courtesy and politeness when dealing with patients, peers, and other health care professionals. Pharmacists should consistently display respect for others and maintain appropriate boundaries of privacy and discretion. Whether dealing with patients or interacting with others on a health care team, it is important to possess–and display–an empathetic manner. **(27)**

B) Ten broad traits of professionalism in pharmacy

Pharmacists act professionally when they display the following 10 broad traits: **(28)**

- Accountability for his/her actions
- Commitment for self improvement of skills and knowledge
- Conscience and trustworthiness
- Covenantal relationship with customer (patient)
- Creativity and innovation

- Ethically sound decision-making
- Knowledge and skills of a profession
- Leadership
- Pride in the profession
- Service oriented

C) Six tenets for professionalism in pharmacy **(28)**

- Altruism: Pharmacists must serve the best interest of patients above their own or above that of employers. This means that care is not compromised or reduced in quality because of a patient's inability to pay.
- Accountability: Pharmacists are accountable for fulfilling the implied covenant that they have with their patients. They are also accountable to society for addressing the health needs of the public and to their profession for adhering to pharmacy's code of ethical conduct.
- Excellence: Pharmacists must be committed to lifelong learning and knowledge acquisition or retrieval to serve patients. This includes wanting to exceed expectations, producing quality work, fulfilling responsibilities, and commitment to helping patients and others.
- Duty: Pharmacists must be committed to serving patients even when it is inconvenient to the pharmacist. The pharmacist is an advocate for the appropriate care regardless of the circumstances.
- Honor and Integrity: Pharmacists must be fair, truthful, keep his/her word, meet commitments, and be straightforward.
- Respect for Others: Pharmacists must respect other pharmacists, health professionals, patients, and their families.

In this regard, there are many definitions of pharmacy professionalism. This study will focus on the definition of professionalism as basis of medicine's contract with society. It demands placing the interests of patients above those of the physician, setting and maintaining standards of competence and integrity, and providing expert advice to society on matters of health. **(27)**

2.5.3.2 Measurement of pharmacy professionalism

There are eighteen items on the pharmacy professionalism instrument as following: **(28)**

A) I do not expect anything in return when I help someone.
B) I attend class/clerkship/work daily.
C) If I realize that I will be late, I contact the appropriate individual at the earliest possible time to inform them.
D) If I do not follow through with my responsibilities, I readily accept the consequences.
E) I want to exceed the expectation of others.
F) It is important to produce quality work.
G) I complete my assignments independently and without supervision.
H) I follow through with my responsibilities.
I) I am committed to helping other.
J) I would take a job where I felt I was needed and could make a difference even if it paid less than other positions.
K) It is wrong to cheat to achieve higher rewards (such as grades, money).
L) I would report a medication error even if no one else was aware of the mistake.
M) I am able to accept constructive criticism.
N) I treat all patients with the same respect, regardless of perceived social standing or ability to pay.
O) I address others using appropriate names and titles.
P) I am diplomatic when expressing ideas and opinions.
Q) I accept decisions of those in authority.
R) I am respectful to individuals who have different backgrounds than mine

2.5.3.3 The centrality of professionalism to health care

Professionalism is most in need of defense in the case of medicine, for the latter's crisis continues and is intensifying. The percentage of Gross National Product that the United States spends on health care is well above that of any other

nation, and the cost is becoming unacceptably high. In the absence of control exercised over institutional budgets and physicians' prices, as is done in Canada and elsewhere, the key to containing cost is the physician, because it is the physician who authorizes or "orders" the use of most other services and health-related goods. Therefore, many efforts at controlling costs in the United States have been aimed, directly or indirectly, at influencing the physician's practice patterns. But few if any have been an unequivocal success. What, then, should be done? **(29)**

CHAPTER III
RESEARCH METHODOLOGY

The Ethics Committee of The Faculty of Pharmaceutical Sciences, Chulalongkorn University, Bangkok, Thailand approved this study in June 5, 2008.

3.1 Study design

This study used mixed methods compile of qualitative and quantitative. Questionnaire was conducted to all participants (forty five pharmacy-owning pharmacists) to explore demographic data of population and in-depth interview was conducted with selected participants (seven pharmacists in accredited pharmacy and ten pharmacists in non-accredited pharmacy) between August 1 and September 30, 2008.

3.2 Study population

This study were conducted in forty five type I pharmacies which had pharmacist who was pharmacy owner and work as full-time during pharmacy work-hours in Nakhonratchasima, Thailand.

3.2.1 Exclusion criteria

- Type II pharmacy – type II pharmacy type was excluded because this pharmacy had not pharmacist during pharmacy work-hours criteria of standard
- Franchise type I pharmacy – franchise pharmacy was excluded because decision depended on proprietor of company
- Type I pharmacy which had no pharmacist work as full-time during pharmacy work- hours was excluded because this pharmacy infringed the criteria of CPA standard

3.2.2 Population in accredited pharmacies:

Ten pharmacists who were pharmacy owner and worked as full-time during pharmacy work-hours in accredited pharmacies.

3.2.3 Population in non-accredited pharmacies:

Thirty five pharmacists who were pharmacy owner and worked as full-time during pharmacy work-hours in non-accredited pharmacies.

3.3 Tools

This study used two tools both questionnaire and in-depth interview.

3.3.1 Questionnaire

This method aimed to explore demographic data of full-time pharmacists in type I pharmacy and investigate opinions for CPA enrollment. The questionnaire consisted of demographic data of pharmacies, demographic data of pharmacy-owning pharmacists, and pharmacists' opinions to enroll in the CPA program.

3.3.1.1 Demographic data of pharmacies included following questions:

A) Status of enrollment in CPA program (accredited pharmacy, non-accredited pharmacy which are interested to enroll in CPA program and non-accredited pharmacy which are not interested to enroll in CPA program)

B) Setting area (urban area or rural area)

C) Average customer per day

D) Average income per day

E) Source of pharmacy student training (No, Yes and being at present, and Yes but in the past)

F) Duration year of pharmacy opening

3.3.1.2 Demographic data of pharmacy-owning pharmacists included following questions:

A) Sex

B) Level of education

C) Member of pharmacy association (Community Pharmacy Association, The Pharmaceutical Association of Thailand Under Royal Patronage, The Drug Stores Club of Thailand, and Association of Hospital Pharmacy)

D) CPE-credit per year (average within 5 years)

E) Frequency of pharmacy training program and conference per year

F) Age

G) Working year in pharmacy

H) Working hour per day

3.3.1.3 Pharmacists' opinions for enrollment in CPA program

This section used rating scale and open-ended questions together the data sought in this study. Questions covered the factors following:

A) Positive factors for enrollment in CPA program

Each respondent was asked to rate the importance of positive factors on a Likert scale of 0-5, from 'not important' to 'very great important'. Open answers of other positive factors were opened for respondent to add at the end of this topic.

B) Barriers for enrollment in CPA program

Each respondent was asked to rate the importance of barriers on a Likert scale of 0-5, from 'not important' to 'very great important'. Open answers of other barriers were opened for respondent to add at the end of this topic.

C) Difficulty to join in CPA program

Responses were rated on a 5-point Likert scale ranging from 1 (very easy) to 5 (very difficult).

D) Difficulty to comprehend the standard of pharmacy by the Pharmacy Council

Standard of pharmacy was categorized into five main topics as Standard I: Premises, equipment and facilities, Standard II: Quality management, Standard III: Good pharmacy practice, Standard IV: Laws, regulations and ethics and Standard V: Services and community participation. Responses to all standards were based on a 5-point Likert scale ranging from 1 (very easy) to 5 (very difficult).

E) Opinions and recommendations for CPA program

Open statements were addressed for a free response at the end of questionnaire together the data sought in this study.

Cronbach's Alpha is used to describe the reliability of factors extracted from rating scale in questionnaire (There were seventy four items from four major factors: positive factors for enrollment in CPA program, barriers for enrollment in CPA program, difficulty to join in CPA program and difficulty to comprehend the standard of pharmacy).

3.3.2 In-depth interview

Open-ended questions and a semi-structured interview guide were used to ask about their understanding and decision to enroll in CPA program. Interview questions developed by the researcher based upon prior research and document review. Interview questions were firstly tested by 3 informants. Questions focus on the following probes including: A) what is the definition of CPA, B) what are incentives and barriers for CPA enrollment, C) what are your opinions about CPA program, and D) questions related to factors that affected pharmacists' decision to enroll in CPA program. If interviewees didn't offer to ask questions or gave advice, the interviewer prompted with "would you ask any questions?" or "would you give any advice?". During interviews, new issues emerged and used in the subsequent interviews.

3.4 Data collection

3.4.1 Questionnaire

Questionnaire and covering letter were administered to forty five subjects by official mailing in August 2008. Reminder postcards were mailed to the entire subjects 2 weeks after the initial mailing. Approximately 4 weeks after the initial mailing, complete survey packets were mailed to non-respondents.

3.4.2 In-depth interview

A letter explaining the background of the study was sent to each of the selected participants (selected participants by theoretical sampling), this was followed by a phone call to discuss an interview and interview date. Three of the pharmacists in accredited pharmacy did not take part due to workload. Seven interviewees in accredited pharmacy and ten interviewees in non-accredited pharmacy were conducted at their pharmacies.

Interviews lasted between 30 and 100 min with an average of 60 min. All interviews were audiotape-recorded and transcribed verbatim. Field notes during the interviews were attached to the transcriptions to complement the taped data.

** Theoretical sampling - the iterative process of qualitative study design mean that samples were usually theory driven to a greater or lesser extent. Theoretical sampling necessitated building interpretative theories from the emerging data and selecting a new sample to examine and elaborate on this theory. It was the principal strategy for

the grounded theoretical approach but was used in some form in most qualitative investigations necessitating interpretation **(30)**.

3.5 Data analysis

Data analysis was performed in each type of method as follows.

3.5.1 Results of questionnaire

The data of returned questionnaire were coded in a database and analyzed by using the Statistical Package for Social Sciences (SPSS) window software version 13.

3.5.1.1 Descriptive statistics on the demographic data of pharmacies were computed

- Variables of status of enrollment into CPA program, setting area, average customer per day, average income per day, and source of pharmacy student training were categorical scale which used frequency and percentage.
- Variable of duration year of pharmacy opening were continuous scale which used means and standard deviations (SDs), and range.

3.5.1.2 Descriptive statistics on the demographic data of pharmacists were computed

- Variables of sex, level of education, member of pharmacy association, CPE-Credit per year, and frequency of pharmacy training program and conference per year were categorical scale which used frequency and percentage.
- Variable of age, working year in pharmacy, and working hour per day were continuous scale which used means and standard deviations (SDs), and range.

3.5.1.3 Pharmacists' opinions to enroll in the CPA program

- Important score of incentive factors to enroll in CPA program used means and standard deviations (SDs).
- Important score of barriers to enroll in CPA program used means and standard deviations (SDs).
- Score of difficulty to join in CPA program used means and standard deviations (SDs).

- Score of difficulty to comprehend the standard of pharmacy used means and standard deviations (SDs).

3.5.2 Results of in-depth interview

In-depth interview data were analyzed by content analysis using thematic analysis. Five stages of data analysis were used as following:

3.5.2.1 Familiarisation - immersion in the raw data by listening to tapes, reading transcripts, studying notes and so on, in order to list key ideas and recurrent themes.

3.5.2.2. Identifying a thematic framework – identifying all the key issues, concepts and themes by which the data can be examined and referenced. This is carried out by drawing on a priori issues questions derived from the aims and objectives of the study as well as issues raised by the respondents themselves and views or experiences that recur in the data. The end product of this stage is a detailed index of the data, which labels the data into manageable chunks for subsequent retrieval and exploration.

3.5.2.3 Indexing – applying the thematic framework or index systematically to all the data in textual form by annotating the transcripts with numerical codes from the index, usually supported by short text descriptors to elaborate the index heading. Single passages of text can often encompass a large number of different themes each of which has to be recorded, usually in the margin of the transcript.

3.5.2.4 Charting – rearranging the data according to the appropriate part of the thematic framework to which they relate and forming charts.

3.5.2.5 Mapping and interpretation – using the charts to define concepts, map the range and nature phenomena, create typologies and find associations between themes with a view to providing explanations for the findings.

Data from interview were presented in overall image and example cases. Example cases were chose from both accredited pharmacies and non-accredited pharmacies. It will be presented in box and can be used to explain pharmacist's opinions in clearness. Tapes and reading note were destroyed after completing the research.

CHAPTER IV
RESULTS

The results of this study are divided into two phases. Phase I is the results of questionnaire consisting of demographic data of pharmacies, demographic data of pharmacy-owning pharmacists, and opinions of pharmacy-owning pharmacists to enroll in CPA program. Phase II is the results of in-depth interview and details of results are in the following.

4.1 Phase I: Results of questionnaire

A total of 45 questionnaires were distributed. There were 33 questionnaires returned in the survey for an overall 73.33 % response rate. Reliability testing of questionnaire by Cronbach's Alpha is 0.9319.

4.1.1 Demographic data of pharmacies

There were 7 (21.2%) respondents in accredited pharmacies and 26 (78.8%) respondents in non-accredited pharmacies. Among 26 respondents in non-accredited pharmacies, there were 18 respondents who were interested to enroll in CPA program and 8 respondents who were not interested to enroll in CPA program. The majority of 28 (84.8%) pharmacies located in urban area, 11 (33.3%) pharmacies had 31 – 50 customers per day, 14 (42.4%) pharmacies had average income 1,001 – 5,000 baht per day, 25 (75.7%) pharmacies were not source of pharmacy student training, and duration of pharmacy opening was 12.24 $\pm$ 13.74 years. Demographic data of pharmacies about setting area, average customer per day and average income per day were similar within two groups. Source of pharmacy student training in two groups were different, 71.4% of accredited group had been source of pharmacy student training while 92.4% of non-accredited group were not source of pharmacy student training. Also duration year of pharmacy opening were different between two group, average duration year in total was 12.24 $\pm$ 13.74 (range from 1-60 years), average duration year in accredited group were 14.71 $\pm$ 7.86 years (range from 8-29 years) while non-accredited group were 11.58 $\pm$ 14.98 years (range from 1-60 years) as show in Table 4.1.

Table 4.1 Demographic data of pharmacies (n = 33)

Demographic data of pharmacies	Frequency (Percentage)		
	Accredited pharmacy (n=7)	**Non-accredited pharmacy (n=26)**	**Total (n=33)**
Setting area			
Urban area	6 (85.7)	22 (84.6)	28 (84.8)
Rural area	1 (14.3)	4 (15.4)	5 (15.2)
Average customer per day			
≤ 30 customers	-	5 (19.2)	5 (15.2)
31 – 50 customers	2 (28.6)	9 (34.7)	11 (33.3)
51 – 100 customers	3 (42.8)	5 (19.2)	8 (24.2)
More than 100 customers	2 (28.6)	7 (26.9)	9 (27.3)
Average income per day			
1,001 – 5,000 baht	2 (28.6)	12 (46.2)	14 (42.4)
5,001 – 10,000 baht	4 (57.1)	4 (15.4)	8 (24.2)
10,001 – 15,000 baht	1 (14.3)	3 (11.5)	4 (12.1)
More than 15,000 baht	-	7 (26.9)	7 (21.3)
Source of pharmacy student training			
No	1 (14.3)	24 (92.4)	25 (75.7)
Yes, and being at present	5 (71.4)	1 (3.8)	6 (18.2)
Yes, but in the past	1 (14.3)	1 (3.8)	2 (6.1)
Duration year of pharmacy opening			
1 – 10 years	2 (28.6)	19 (73.1)	21 (63.6)
11 – 20 years	3 (42.8)	2 (7.7)	5 (15.2)
21 – 30 years	2 (28.6)	1 (3.8)	3 (9.1)
More than 30 years	-	4 (15.4)	4 (12.1)

4.1.2 Demographic data of pharmacy-owning pharmacists

More than half of the respondents (66.7%) were female while 33.3% were male. The majority of the respondents (87.9%) graduated a bachelor's degree, 66.7% were member of Community Pharmacy Association (Thailand), 42.4% were member of The Pharmaceutical Association of Thailand Under Royal Patronage, 45.5% were member of The Drugstores Club of Thailand, 21.2% were member of Association of Hospital Pharmacy (Thailand), 42.4% had more than 10 CPE-credits per year (average with in 5 years), and 63.6% participated in pharmacy training and conference about 1-2 times per year. The respondents ranged in age from 24 to 61 years old, with an average of 36.21 $\pm$ 9.78 years old, worked in pharmacy 9.21 $\pm$ 8.58 years, worked 10.03 $\pm$ 2.35 hours per day as show in Table 4.2.

Table 4.2 Demographic data of pharmacy-owning pharmacists

Demographic data of pharmacists	**Frequency (Percentage)**		
	Accredited pharmacy (n=7)	**Non-accredited pharmacy (n=26)**	**Total (n=33)**
Sex			
Male	3 (42.9)	8 (30.8)	11 (33.3)
Female	4 (57.1)	18 (69.2)	22 (66.7)
Level of education			
Bachelor's degree	6 (85.7)	23 (88.5)	29 (87.9)
Master's degree	1 (14.3)	3 (11.5)	4 (12.1)
Member of Community Pharmacy Association			
Yes	7 (100)	15 (57.7)	22 (66.7)
No	-	11 (42.3)	11 (33.3)
Member of the Pharmaceutical Association of Thailand Under Royal Patronage			
Yes	3 (42.9)	11 (42.3)	14 (42.4)
No	4 (57.1)	15 (57.7)	19 (57.6)
Member of the Drugstores Club of Thailand			
Yes	3(42.9)	12 (46.2)	15 (45.5)
No	4 (57.1)	14 (53.8)	18 (54.5)

Table 4.2 Demographic data of pharmacy-owning pharmacists (cont.)

Demographic data of pharmacists	Frequency (Percentage)		
	Accredited pharmacy (n=7)	**Non-accredited pharmacy (n=26)**	**Total (n=33)**
Member of Association of Hospital Pharmacy			
Yes	-	7 (26.9)	7 (21.2)
No	7 (100)	19 (73.1)	26 (78.8)
CPE-credit per year (average in 5 years)			
0 credit	-	3 (11.5)	3 (9.1)
1 – 5 credits	3 (42.9)	8 (30.8)	11 (33.3)
6 – 10 credits	1 (14.3)	4 (15.4)	5 (15.2)
More than 10 credits	3 (42.8)	11 (42.3)	14 (42.4)
Frequency of pharmacy training			
No	-	2 (7.7)	2 (6.1)
1 – 2 times per year	2 (28.6)	19 (73.1)	21 (63.6)
3 – 5 times per year	3 (42.9)	4 (15.4)	7 (21.2)
6 – 8 times per year	2 (28.6)	-	2 (6.1)
More than 8 times per year	-	1 (3.8)	1 (3.0)
Demographic data of pharmacists	**Mean ± SD (Range)**		
	Accredited pharmacy (n=7)	**Non-accredited pharmacy (n=26)**	**Total (n=33)**
Age (years)	44.43 ± 8.42 (34–61 years)	34.00 ± 9.03 (24–59 years)	36.21 ± 9.78 (24–61 years)
Working year in pharmacy (years)	16.86 ± 7.82 (8–29 years)	7.15 ± 7.67 (1–36 years)	9.21 ± 8.58 (1–36 years)
Working hour per day (hours)	11.43 ± 0.98 (10–12hours)	9.65 ± 2.48 (6–14 hours)	10.03 ± 2.35 (6–14 hours)

4.1.3 Pharmacists' opinions for enrollment in CPA program

4.1.3.1 Positive factors for enrollment in CPA program

Nine categories of positive factors to enroll in CPA program were cited by prior studies. Table 4.3 showed that, recognition and extension roles of pharmacy professionalism was rated the most important positive factor for enrollment in CPA program (4.1 $\pm$ 1.0). These were followed by pharmacy improvement (3.9 $\pm$ 1.2), providing good pharmacy service to patients (3.8 $\pm$ 1.2), and providing good image of pharmacy to patients and other medical staffs (3.8 $\pm$ 1.1). Additional positive factors identified in this study were competition with nearly pharmacies, and improving pharmacists' knowledge by conference and training.

The most important positive factor for enrollment in CPA program in both two groups was recognition and extension roles of pharmacy professionalism. In accredited group, there were following by pharmacy improvement and recognition on important and benefit of CPA. In non-accredited group, there were following by providing good image of pharmacy to patients and other medical staffs, and providing good pharmacy service to patients. Additionally, the least important positive factor was business benefit which was similar in both two groups.

Table 4.3 Positive factors for enrollment in CPA program

Positive factors for enrollment in CPA program	**Mean ± SD**		
	Accredited pharmacy (n=7)	**Non-accredited pharmacy (n=26)**	**Total (n=33)**
1. Recognition and extension roles of pharmacy professionalism	4.4 ± 0.5	3.9 ± 1.1	4.1 ± 1.0
2. Pharmacy improvement	4.3 ± 0.4	3.8 ± 1.4	3.9 ± 1.2
3. Providing good pharmacy service to patients	3.4 ± 0.9	3.9 ± 1.2	3.8 ± 1.2
4. Providing good image of pharmacy to patients and other medical staffs	3.3 ± 1.1	3.9 ± 1.1	3.8 ± 1.1
5. Recognition on important and benefit of CPA program	3.7 ± 0.8	3.4 ± 1.3	3.5 ± 1.2
6. Acceptable from patients and community	2.6 ± 1.3	3.4 ± 1.3	3.2 ± 1.3
7. Cooperation with the Pharmacy Council and Nakhonratchasima Provincial Public Health Office	3.4 ± 2.1	2.9 ± 1.5	3.1 ± 1.6
8. Source of pharmacy student training	3.0 ± 1.3	2.4 ± 1.8	2.5 ± 1.7
9. Business benefit	1.6 ± 1.1	2.1 ± 1.4	1.9 ± 1.4
10. Additional positive factors			
10.1 Competition with nearly pharmacies (n = 1)	-	5.0 ± 0.0	5.0 ± 0.0
10.2 Improving pharmacists' knowledge by conference and training (n = 1)	4.0 ± 0.0	-	4.0 ± 0.0

4.1.3.2 Barriers for enrollment in CPA program

Ten categories of barriers to enroll in CPA program were cited by prior studies. Table 4.4 showed that, difficulty of standard of pharmacy in practicality (3.2 $\pm$ 1.2) was rated as the most important barrier. There were followed by lack of support from concerned organizations (3.2 $\pm$ 1.6) and cost for restoring and adjustment pharmacy according to standard of pharmacy (3.1 $\pm$ 1.6). Additional barriers identified in this study were unavailable to work full-time during pharmacy work hour criteria, and unavailable to sell alcohol and cigarette.

The most important barrier was different between two groups. The most important barriers in accredited group were lack of support from concerned organizations and non-assured in stable of CPA program, and there were following by difficulty of standard of pharmacy in practicality. In non-accredited group, difficulty of standard of pharmacy in practicality, and cost for restoring and adjustment pharmacy according to standard of pharmacy was the most important barrier. There were following by lack of support from concerned organizations.

In overall view, the least important barrier was unawareness and unknowledgeable on CPA program. But in accredited group, the least important barrier was irresponsibility.

Table 4.4 Barriers for enrollment in CPA program

Barriers for enrollment in CPA program	**Mean ± SD**		
	Accredited pharmacy (n=7)	**Non-accredited pharmacy (n=26)**	**Total (n=33)**
1. Difficulty of standard of pharmacy in practicality	2.6 ± 0.5	3.4 ± 1.3	3.2 ± 1.2
2. Lack of support from concerned organizations	3.6 ± 1.3	3.0 ± 1.7	3.2 ± 1.6
3. Cost for restoring and adjustment pharmacy according to standard of pharmacy	2.1 ± 0.9	3.4 ± 1.6	3.1 ± 1.6
4. Fee for applying in CPA program (3,000 baht)	2.1 ± 0.9	3.0 ± 1.8	2.9 ± 1.6
5. Non-assured in stable of CPA program	3.6 ± 1.3	2.6 ± 1.75	2.8 ± 1.7
6. CPA process	2.4 ± 0.8	2.9 ± 1.3	2.8 ± 1.2
7. No advantages from CPA program	2.0 ± 2.2	2.5 ± 1.6	2.4 ± 1.7
8. Denial (feeling to refuse in CPA enrollment)	1.6 ± 2.1	2.5 ± 1.3	2.3 ± 1.5
9. Irresponsibility (it is not my job to enroll in CPA program)	1.3 ± 1.6	2.2 ± 1.4	2.0 ± 1.5
10. Unawareness and unknowledgeable on CPA program	1.6 ± 1.3	1.6 ± 1.4	1.6 ± 1.3
11. Other barriers			
11.1 Unavailable to work full-time during pharmacy work hour criteria (n = 1)	-	5.0 ± 0.0	5.0 ± 0.0
11.2 Unavailable to sell alcohol and cigarette (n = 1)	-	4.0 ± 0.0	4.0 ± 0.0

4.1.3.3 Difficulty to join in CPA program

Mean score of difficulty to join in CPA program in all respondents was 3.2 ± 0.7 (range from 1-5, mode=3); it was moderate to join in CPA program. Mean score in accredited group was 3.14 ± 0.38 which was nearly with non-accredited group that was 3.2 ± 0.7. But range score in accredited group was narrow from 3 to 4 (mode=3) while non-accredited group was large from 1 to 5 (mode=3).

4.1.3.4 Difficulty to comprehend standard of pharmacy by the Pharmacy Council

The result revealed that standard 2 (score = 2.8 ± 1.1) and standard 3 (score = 2.7 ± 0.9) were difficult to comprehend in practicality. Standard 3.2.6: must track drug usage results to improve usage and advisory in accordance with accepted methods and ethics was rated the most difficult to comprehend (3.8 ± 0.9). These were followed by standard 2.2.6: must keep a service record for patients who need continuous tracking (3.7 ± 0.9), standard 3.1.5: must maintain a reserve of first-aid and life saving drugs and products for emergency cases (3.5 ± 0.8), standard 2.2.8: must establish and track key quality indicators such as customer satisfaction and number of patients with drug profiles (3.4 ± 0.9) and standard 3.2.5: must conduct and keep drug profiles of patients who need continuous tracking (3.4 ± 0.9). The most difficult standard to comprehend in accredited group was standard 3.2.6. It differed from non-accredited group that standard 2.2.6 was the most difficult. The mean rating score of respondents' difficulty to comprehend the standard of pharmacy were shown in Table 4.5.

Table 4.5 Difficulty to comprehend standard of pharmacy by the Pharmacy Council

Standard of pharmacy	**Mean ± SD**		
	Accredited pharmacy (n=7)	**Non-accredited pharmacy (n=26)**	**Total (n=33)**
Standard I: Premises, equipment and other facilities			
1.1 Premises			
1.1.1 Must be situated in a strong, permanent building and have	1.3 ± 0.5	2.0 ± 1.2	1.9 ± 1.1

Standard of pharmacy	Mean ± SD		
	Accredited pharmacy (n=7)	Non-accredited pharmacy (n=26)	Total (n=33)
adequate space for pharmacy services			
1.1.2 Must be tidy, have adequate lighting and ventilation, and also a fire extinguishing system	1.3 ± 0.5	1.9 ± 1.1	1.7 ± 1.0
1.1.3 Must be able to control the environment of the storage to be suitable for storing each product	1.6 ± 0.9	2.7 ± 1.2	2.5 ± 1.3
1.1.4 Must have the pharmacist's service area that appears to customers to be an obviously separate area	1.9 ± 0.9	2.9 ± 1.3	2.7 ± 1.3
1.1.5 Must have a private and appropriate area for counseling	2.0 ± 1.0	2.8 ± 1.1	2.6 ± 1.1
1.1.6 Must provide customers with an area exhibiting health education materials. Materials intended for commercial advertisement must have their own area separate from the former	2.1 ± 0.7	2.6 ± 1.0	2.5 ± 0.9
1.1.7 Must clearly display the following: sign indicating the place is a licensed pharmacy; name and photograph of the on-duty pharmacist with license number and time on duty; other signs and plates as required by laws and regulations for specific licenses or drugs, signs indicating the area for each service	1.6 ± 0.5	2.3 ± 0.9	2.2 ± 0.9
1.2 Equipment			
1.2.1 Must have the equipment necessary for drug monitoring	2.0 ± 0.8	2.4 ± 1.1	2.3 ± 1.1

Standard of pharmacy	Mean ± SD		
	Accredited pharmacy (n=7)	**Non-accredited pharmacy (n=26)**	**Total (n=33)**
such as weight scales, height scales and thermometers			
1.2.2 Must separate the drug counting trays for Penicillines, NSAIDS, Sulfonamides and others	1.9 ± 0.9	1.9 ± 0.9	1.9 ± 0.8
1.2.3 Must keep the equipment clean and prevent contamination	1.6 ± 0.5	1.67 ± 0.7	1.7 ± 0.7
1.2.4 Must have a refrigerator for drugs that must be kept within 1-8°C under consistent temperature control and a record of same	2.4 ± 0.9	3.1 ± 1.3	2.9 ± 1.3
1.2.5 Drug containers: must be the original containers with the legal class of the medicine identified and suitable for dispensing to patients and able to protect the drug from deterioration	1.9 ± 0.7	2.2 ± 0.9	2.1 ± 0.9
1.3 Facilities			
1.3.1 Must have resources, text books or other facilities to access necessary information	2.6 ± 0.8	2.6 ± 0.9	2.6 ± 0.9
1.3.2 Must have auxiliary labels and documents to support services as appropriate	2.6 ± 0.8	2.4 ± 0.7	2.5 ± 0.7
1.3.3 Should have tools and equipment enhancing patient compliance	2.7 ± 0.8	2.7 ± 0.9	2.7 ± 0.9
Total score of difficulty to comprehend standard I	**1.9 ± 0.8**	**2.4 ± 1.1**	**2.3 ± 1.1**
Standard II: Quality management			
2.1 Personnel			
2.1.1 Operators: Must be licensed pharmacists and be at the pharmacy during the service	1.6 ± 0.9	2.4 ± 1.4	2.2 ± 1.3

Standard of pharmacy	Mean ± SD		
	Accredited pharmacy (n=7)	Non-accredited pharmacy (n=26)	Total (n=33)
hours, Must clearly identify themselves as on-duty pharmacists by putting on uniform as specified by ability to communicate appropriately, Must have good personal hygiene			
2.1.2 Assistants (if any): Must clearly identify themselves as assistants and not as pharmacists, Must provide services under the supervision of the on-duty pharmacist, Must have good personal hygiene	2.0 ± 1.0	2.9 ± 1.1	2.7 ± 1.2
2.2 Quality assurance			
2.2.1 Must have all the necessary documents such as prescriptions, categorized related regulations and standard practice guidelines	2.6 ± 0.8	2.8 ± 0.7	2.8 ± 0.7
2.2.2 Must have an appropriate document and information storage system	2.6 ± 0.8	2.9 ± 0.9	2.9 ± 0.8
2.2.3 Must display clearly patients' rights	1.7 ± 0.9	2.4 ± 1.1	2.2 ± 1.1
2.2.4 Must perform risk analysis and establish a risk management method	3.0 ± 1.3	3.0 ± 0.9	3.0 ±1.1
2.2.5 Must perform identification of the real needs of customers	2.3 ± 0.8	2.9 ± 1.1	2.8 ± 1.0
2.2.6 Must keep a service record for patients who need continuous tracking such as those who have chronic diseases. Records include, for instance, drug	3.6 ± 0.9	3.7± 0.8	3.7 ± 0.9

Standard of pharmacy	Mean ± SD		
	Accredited pharmacy (n=7)	**Non-accredited pharmacy (n=26)**	**Total (n=33)**
allergies, incidence and nature of adverse reactions to drugs and health products usage			
2.2.7 Must perform a double check on processes concerning customers to reduce errors	2.7 ± 0.8	3.1 ± 0.9	3.0 ± 0.9
2.2.8 Must establish and track key quality indicators such as customer satisfaction and number of patients with drug profiles	3.1 ± 0.7	3.5 ± 0.9	3.4 ± 0.9
2.2.9 Must continuously participate in pharmacy related continuing education and life-long learning	2.3 ± 0.9	2.4 ± 1.0	2.3 ± 0.9
Total score of difficulty to comprehend standard II	**2.5 ± 1.0**	**2.9 ± 1.1**	**2.8 ± 1.1**
Standard III: Good pharmacy practice			
3.1 Drug procurement and storage			
3.1.1 Must establish selection criteria for drugs and health products available in the pharmacy such as GMP certificated products	2.0 ± 0.8	2.3 ± 0.8	2.2 ± 0.7
3.1.2 Must have proper storage conditions to maintain the quality and safety of drugs	2.1 ± 0.7	2.4 ± 0.8	2.4 ± 0.8
3.1.3 Must have an effective system to manage drug expirations	2.7 ± 1.1	2.9 ± 0.9	2.9 ± 0.9
3.1.4 Must have a controllable and auditable system for the dispensing of narcotic drugs, psychotropic substances and other specially controlled drugs	2.0 ± 1.0	2.5 ± 0.9	2.4 ± 1.0
3.1.5 Must maintain a reserve of first-aid and life saving drugs and	3.7 ± 0.8	3.4 ± 0.8	3.5 ± 0.8

Standard of pharmacy	Mean ± SD		
	Accredited pharmacy (n=7)	Non-accredited pharmacy (n=26)	Total (n=33)
products for emergency cases such as antidotes that conform to the local community's needs			
3.2 Good pharmacy practice			
3.2.1 Must promote and encourage proper drug usage	1.7 ± 0.8	2.1 ± 0.7	2.0 ± 0.8
3.2.2 Must identify the true customers, their needs and expectations through interview and review of their drug profile (if any) before dispensing drugs	1.7 ± 0.8	1.9 ± 0.7	1.8 ± 0.7
3.2.3 On prescription appraisal: Must be able to analyze and determine if the prescription is suitable for the patient, Must consult with and have permission from the prescriber before making any change to a prescription	2.9 ± 1.4	2.6 ± 0.9	2.7 ± 0.9
3.2.4 On the dispensing process: Drugs must be dispensed by the pharmacist, Dispensed drugs must have a label indicating, Must explain to the customer the usage of the drug, Should not hand the drug to a child below 12 years of age without knowing the child's intention. If necessary, dispensing must follow a clearly and properly established protocol, No narcotic drug or psychotropic substance may be handed to a child below 12 years of age in any case	1.7 ± 0.8	2.4 ± 0.9	2.2± 0.9

Standard of pharmacy	Mean ± SD		
	Accredited pharmacy (n=7)	**Non-accredited pharmacy (n=26)**	**Total (n=33)**
3.2.5 Must conduct and keep drug profiles of patients who need continuous tracking	3.3 ± 0.9	3.5 ± 0.9	3.4 ± 0.9
3.2.6 Must track drug usage results to improve usage and advisory in accordance with accepted methods and ethics	4.3 ± 0.5	3.6 ± 0.9	3.8 ± 0.9
3.2.7 Must have a clear and concrete referral protocol	3.0 ± 1.2	3.1 ± 0.8	3.1 ± 0.9
3.2.8 Must have criteria for drug counseling	2.4 ± 0.5	2.7 ± 0.6	2.6 ± 0.6
3.2.9 Must monitor the adverse effects of drugs and health products and report incidents to the concerned authorities when found	2.9 ± 0.9	2.7 ± 0.8	2.7 ± 0.8
3.2.10 Must cooperate with other health professionals for the most effective remedies	2.6 ± 1.1	2.9 ± 1.1	2.8 ± 1.1
Total score of difficulty to comprehend standard III	**2.6 ± 1.1**	**2.7 ± 0.9**	**2.7 ± 0.9**
Standard IV: Laws, regulations and ethics			
4.1 Must not operate while the license is suspended or withdrawn	1.3 ± 0.5	1.7 ± 1.0	1.6 ± 0.9
4.2 Must comply with laws and regulations including keeping records and documents required by law	1.3 ± 0.5	2.0 ± 0.9	1.9 ± 0.9
4.3 Must not possess unlicensed or illegal drugs.	1.3 ± 0.5	1.7 ± 0.6	1.6 ± 0.6
4.4 Must keep prescriptions and other related documents for at least 1 year at the pharmacy. Must also record the drugs dispensed under prescription	1.7 ± 0.8	2.4 ± 0.9	2.2 ± 0.9

Standard of pharmacy	Mean ± SD		
	Accredited pharmacy (n=7)	**Non-accredited pharmacy (n=26)**	**Total (n=33)**
4.5 Must respect patient confidentiality and have protection for patients' personal data	1.6 ± 0.8	1.6 ± 0.6	1.6 ± 0.6
4.6 Must not dispense prescribed drugs during the absence of the on-duty pharmacist	1.7 ± 0.9	2.2 ± 1.0	2.1 ± 1.0
4.7 Operators must behave professionally and not discredit the pharmacy or any other profession.	1.3 ± 0.5	1.6 ± 0.6	1.5 ± 0.6
Total score of difficulty to comprehend standard IV	**1.5 ± 0.6**	**1.9 ± 0.9**	**1.8 ± 0.8**
Standard V: Services and community participation			
5.1 Must provide the community with information and advice regarding poisonous substances and narcotic drugs with regard to the prevention, treatment and remedy of illnesses. Must also participate in campaigns against narcotics	2.3 ± 1.1	2.5 ± 1.2	2.4 ± 1.1
5.2 Must cooperate with authorities in reporting and giving information about illegal drugs and narcotics	2.6 ± 1.4	2.5 ± 1.2	2.5 ± 1.2
5.3 Must provide the community with information and advice regarding drugs and health that will benefit the community in illness prevention and health promotion	2.1 ± 0.7	1.9 ± 0.9	1.9 ± 0.9
5.4 Must help promote correct drug usage in the community	1.7 ± 0.8	2.3 ± 0.9	2.2 ± 0.9
5.5 Must participate in preventing problems related to improper drug usage in the community	2.4 ± 0.9	2.4 ± 0.9	2.4 ± 0.9

Standard of pharmacy	Mean ± SD		
	Accredited pharmacy (n=7)	Non-accredited pharmacy (n=26)	Total (n=33)
5.6 Must not produce or sell products that are harmful to health such as alcohol and cigarettes	1.4 ± 0.5	1.5 ± 0.9	1.6 ± 0.8
Total score of difficulty to comprehend standard V	**2.1 ± 0.9**	**2.2 ± 1.1**	**2.2 ± 1.0**

4.2 Phase II: Results of in-depth interview

The results obtained from in-depth interview provide an insight into the understanding pharmacists' decision to enroll in CPA program. Responses from 7 interviewees in accredited pharmacies and 10 interviewees in non-accredited pharmacies are presented according to type of factors that affected pharmacists' decision (Motive factors, means factors, and opportunity factor). Other opinions about barriers of CPA enrollment are addressed at the end of this part as following.

4.2.1 Motive factors were classified as CPA awareness, futility, incentive, support, professionalism, and recognition of patients and community toward CPA.

4.2.1.1 CPA awareness; All pharmacists knew about CPA program. Definition of CPA program, pharmacists in accredited pharmacies mostly focused on quality of pharmacist and quality of pharmacy service while pharmacists in non-accredited pharmacies mainly explained on physical figure and external process of CPA program. And many customers were unaware on accredited pharmacy because they did not previously know about CPA program.

CPA awareness of pharmacy-owning pharmacists

Everyone understood that CPA program was an accrediting program for improvement related to standard of pharmacy by the Pharmacy Council, but they explained concept and constituents of CPA program in various terms. Some of them, particularly pharmacists in non-accredited pharmacies explained only physical figures of CPA program such as logo sign of accredited pharmacy, had full-time pharmacist on duty, good system for necessary documentation, had appropriate criteria for drug

selection such as GMP certified producers, storage system to ensure stability and effectiveness of medical products, monitoring system for expire drugs, provided drug and health brochure for patients, and did not keep products that were bad for health (such as cigarettes and alcoholic drink). Someone, especially pharmacists in accredited pharmacies understood more concepts of CPA program in quality of pharmacist, good quality service (such as medication error detection, monitoring system to reduce possible errors, and establish customer's satisfaction), good clinical pharmacy practices (such as identified genuine customer's need by appropriate interview, health status assessment before dispensing, had guidelines for dispensing, provided good counseling of medication for appropriate drug use, advised patients to get better health behaviors, and recorded patient's medication profile), and processed on life style modification of patient to improve their quality of life. Additionally, accreditation means customers gain a better service through continuity and clarification of the community pharmacy services relating to medicines, health products, and their health problems. Community pharmacists were the health consultants as needed. This leads to the better quality of life for people in the community. Some of pharmacists, particularly pharmacists in accredited pharmacies indicated that CPA service focused on pharmacy professionalism more than business benefit.

CPA awareness of public

Pharmacists in two groups similarly indicated on their opinions that almost customers did not aware on accredited pharmacy. They did not know that "what is CPA program?, "what is accredited pharmacy" what are different between accredited pharmacy and non-accredited pharmacy?, what are benefits from accredited pharmacy?". This understanding seemed knowing in only pharmacy profession; other health care professionals and customers did not know about CPA program. Understanding of CPA in pharmacists who worked in pharmacy setting was better than other working fields such as hospital, pharmaceutical manufacturing, and marketing.

Few customers knew about CPA program, but they did not understand the real concept of CPA program and did not know that "who do accredit on CPA process?". They thought that pharmacy-owning created logo sign of accredited pharmacy by themselves, and they thought that logo sign of accredited pharmacy was

nearly same as logo sign of Clean Food Good Taste which would make customers' attraction to come in their pharmacy. Customer who knew about CPA program were high education people, university lecturers, other health care professionals, regular customers who normally come to their pharmacies, customers who saw logo sign of accredited pharmacy and asked about this logo sign, and customers who received good pharmacy services which were different from other pharmacies such as full-time pharmacist on duty, pharmacist interviewed symptom and health status assessment before dispensing, pharmacist explained medicine details during dispensing and pharmacists advised patients on self-care management to get better health behavior.

More than problem of patients' unawareness about accredited pharmacy, also many patients could not distinguish between type I pharmacy and type II pharmacy, and could not differentiate between pharmacist and drug seller because of many drug sellers wore white uniform similar to pharmacist. Thus, many pharmacists suggested that government and concerned organization should publicize information to increase public awareness especially customers who used medicine and got benefit from accredited pharmacy.

4.2.1.2 Futility; Nearly all pharmacists (excepted one pharmacist in non-accredited pharmacy) discussed that CPA program had many benefits for patients, pharmacists and their pharmacies. Majority of pharmacists in accredited pharmacies and some pharmacists in non-accredited pharmacies felt that accredited pharmacies differed advantaged from non-accredited pharmacy. One pharmacist in accredited pharmacy felt that accredited pharmacy would not make a different advantage if eminent roles of CPA program did not extend to patients. And some pharmacists in non-accredited pharmacies discussed that they could not see different advantage in more acceptable on accredited pharmacies from patients, increasing on number of customers, and increasing on financial benefit.

Benefits of CPA program

All pharmacists in accredited pharmacies discussed that CPA program had many benefits especially for patients who used medicine; patients would be safety in drug utilization by quality service and good counseling from pharmacist, and patients can conveniently consult with pharmacist because of full-time working on duty. In addition, other benefits of CPA program were improving in figure of

pharmacy, increasing of pharmacists' knowledge by training from professional lecturers, upgrading new treatment guideline, developing on working standard, increasing on acceptable from patients, increasing on role of pharmacy professionalism, exhibiting of clinical pharmacy service to public, and decreasing on expenses of government in health care system because of lower irrational drug use in patients.

Nearly all of pharmacists in non-accredited pharmacies (n=9) thought that CPA program had many benefits as same as pharmacists in accredited pharmacies. Only one pharmacist in non-accredited pharmacy thought that CPA program did not have any benefits.

> "I do not see any benefits of CPA program that accredited pharmacy different from non-accredited pharmacy, especially business benefit." (Interviewee 11)

Was advantage of accredited pharmacy similar to non-accredited pharmacy?

Many pharmacists in accredited pharmacies indicated that advantage of accredited pharmacy was different from non-accredited pharmacy because they did not look only physical figure of CPA program; but they look in internal clinical practice. CPA program would make a difference advantage to help patients for rational drug utilization, improve pharmacists' knowledge and develop their pharmacy.

One pharmacist in accredited pharmacy discussed that advantage of accredited and non-accredited pharmacies were similar if we would not clearly establish roles of accredited pharmacy.

> "Advantages of accredited pharmacy are similar to non-accredited pharmacies which has full-time pharmacist on duty if eminent roles of accredited pharmacy beyond pharmaceutical care service, do not extend to promote." (Interviewee 5)

Some of pharmacists in accredited pharmacies indicated that advantage of accredited pharmacy was different from non-accredited pharmacy as same as above pharmacists' opinions in accredited pharmacies. But some pharmacists in non accredited pharmacies discussed that they could not see different advantage as following:

"I do not see more acceptable on accredited pharmacy from patients, which it is different from non-accredited pharmacy which has full-time pharmacist." (Interviewee 13) The same opinion also came from other two pharmacists (Interviewee 15 and 17).

"I do not see increasing number of customers coming into accredited pharmacy and increasing financial benefit." (Interviewee 11) The same opinion also came from other two pharmacists (Interviewee 14 and 15).

Box 1: Pharmacist in non-accredited pharmacy who has no interest to enroll in CPA program

He is 39 years old, who is not interested and do not want to enroll in CPA program. He graduated bachelor's degree and have worked in pharmacy for 14 years. His pharmacy locates near city, have 51-100 customers per day, and have income 5,000 – 10,000 baht per day. He works as full-time from 8:00 am – 22:00 pm. He is not member of any pharmacy associations. He has about 16-20 CPE credits per year but he did not participate in conference or training within 5 years ago.

"I know and understand concept of CPA program. But I do not want to enroll in CPA program because I do not have advantages from CPA program and do not see different number of customers between accredited pharmacy and non-accredited pharmacy. I see that some non-accredited pharmacies have many customers more than accredited pharmacies. Some patients want to buy medicines from drug seller because they want only medicine and they do not want other questions and information of medicines. Likewise, many drug sellers are better on commercial more than pharmacists because they could offer everything that patients' need and they do not ask more questions like pharmacists." he said.

4.2.1.3 Incentive; All pharmacists in accredited pharmacies were not interested on business benefits. Their incentive focused on extension roles of pharmacy professionalism, knowledge improvement and pharmacy development. Many pharmacists in non-accredited pharmacies were interested on business incentive more than other factors.

Views on incentives to enroll in CPA program were different between two groups. In accredited group, they preferred to enroll in CPA program not because of business benefits. They focused on extension roles of pharmacy professionalism,

knowledge improvement and pharmacy development. Their incentives were developing on pharmacy system, increasing good image of pharmacy, improving quality of pharmacist, providing public confidence, increasing on acceptable and reliable in public health center and especially in patients, reliability on pharmacy professionalism, cooperative with Nakhonratchasima Provincial Public Health Office to improve CPA program, standard of pharmacy would be law and regulation for every pharmacy in future, being good source of pharmacy student training, it was appropriate time for enrollment, assuring in stable of CPA program because the Pharmacy Council was mainly organization to proceed CPA program, and inviting to be accredited pharmacy from other pharmacists.

> "I have special incentive for CPA enrollment. I am committee of the Community Pharmacy Association and this organization encouraged pharmacies to be accredited pharmacies. Because I am member of this committee and wanted to cooperate with all programs of the Community Pharmacy Association, I decided to enroll in CPA program immediately."(Interviewee 2)

> "My first incentive is to pilot study of prescribing system which patients had to bring prescription to receive medicine from pharmacist in accredited pharmacy. This pilot study was cooperated between Nakhonratchasima Provincial Public Health Office and the National Health Security Office." (Interviewee 4)

However in non-accredited pharmacies, their incentives were stressed on business benefits, potential increasing competition and other special benefit. They discussed that pharmacy was business which concerned with commercial benefit. Pharmacy could not proceed without business benefits, but pharmacy had to work under control of pharmacy ethics and professionalism. Their incentives were customer increase, income increase, discount on drug price from pharmaceutical company, cooperative with the National Health Security Office in prescribing system and refill medication in continuous diseases such as hypertension and diabetic diseases. Other incentives were similar with accredited pharmacies such as developing pharmacy system, increasing good image of pharmacy, improving quality of pharmacist, increasing on acceptable from other pharmacies and patients, extension roles of

pharmacy professionalism, and increasing reliability of patient that pharmacist professionalism was different from other professions. In addition, other incentive was law enforcement for all pharmacies to be accredited pharmacies.

Two pharmacists in non-accredited pharmacy indicated that they did not have any incentives for enrollment as they gave their opinions that

> "I do not have incentive for CPA enrollment because I am not ready and do not have interest to be accredited pharmacy at this time. I have to adjust many things in my pharmacy according to standard of pharmacy. Sometime, many customers come into my pharmacy and I can not dispense medicine only by myself, my assistants help me for common case. Also, it is difficult for me to manage wholesale drug." (Interviewee 9)
>
> "I do not have any intensives, necessity and essential for CPA enrollment. Customers do not require only service from accredited pharmacy; they want quality service from good pharmacy and quality pharmacists. Nearly all customers do not know and hear about CPA before. Many customers come into my pharmacy because I always work as full-time pharmacist and have quality service. I regularly assess patients' health status, provide patients with information regarding the medicine, and explained possible side effects to them. I receive acceptability from many patients and have appropriate income by I do not need to be accredited pharmacy." (Interviewee 11)

Box 2: Pharmacist in non-accredited pharmacy who had interest to enroll in CPA program if she received business benefit

She is 28 years old, graduated bachelor's degree and had worked in this pharmacy for 3 years. Her pharmacy located in city area, had 31-50 customers per day and had income 1,000 – 5,000 baht per day. She worked as full-time from 10:00 am – 9:00 pm. She was not member of any pharmacy association. She had about 1-5 CPE credits per year and assembled in pharmacy conference 1-2 times per year.

At that time, she did not want to enroll in CPA program because she did not see financial incentive and different benefits between accredited pharmacy and non-accredited pharmacy. Her important incentives for enrollment in CPA program were customer increase, income increase and financial rewards. She thought that "why did she have to enroll in CPA program?" if she would not receive benefits from enrollment in CPA program. Pharmacy was business which could not stay without customers and profits. Pharmacists had conducted few CPA program despite the FDA and the Pharmacy Council attempted to establish CPA program with many strategies because they did not see benefits particularly business benefit. Lack of financial incentive had been cited as her barriers. She thought that pharmacy service by pharmacist was the most important for patients; CPA was not the most important for them. Consultation with the pharmacist provided patients an opportunity to ask about their medicine and identified any problems they might be experiencing along with possible solutions. She could do on good pharmacy practice by using standard of pharmacy as guideline and she could improve her professional skills by conference and training.

4.2.1.4 Support; support from concerned organizations affected pharmacist decision for CPA enrollment.

Both pharmacists in two groups discussed that they did not receive enough support from government and concerned organization. They suggested that Nakhonratchasima Provincial Public Health Office, the Thai FDA and the Thai pharmacy council should support them on CPA program such as this following:

- Interest benefits such as drugs classed as special controlled drug could be dispense in accredited pharmacy without prescription, receiving special drug price or discount from pharmaceutical

company, decreasing on fee of pharmacy license and receiving on free pharmacy journal.

- Increasing on CPA public promoting to customers and drew attention of the customers on benefit from the accredited pharmacy's service. This customers' awareness would then demand the pharmacy owners to enroll in the program.
- To encourage CPA mentor system as CPA model to give advice and help other pharmacy-owning pharmacists who are interested to enroll in CPA program
- To sponsor on large logo sign of accredited pharmacy to put in front of pharmacy

Furthermore, pharmacists in non-accredited pharmacy suggested that government should strongly impulse pharmacy law and regulation, strictly audited pharmacy which did not have pharmacist during duty hour, developed all type II pharmacies to be type I pharmacies which had full-time pharmacist on duty, increased penalty provisions of a law when pharmacist did illegal ethics and professionalism, and compelled all pharmacies to be accredited pharmacies. Other comments were supportable organizations should support fee for apply on CPA program (3,000 baht) if they really wanted to stimulate pharmacy to be accredited pharmacy, prepared training course for pharmacist, adjusted standard of pharmacy to be easy and appropriate for practicalness, and established strong and distinct CPA policy.

4.2.1.5 Professionalism; All pharmacists in accredited pharmacy revealed that CPA program directly concerned with pharmacy professionalism. Some of pharmacists in non-accredited pharmacy discussed that professionalism depended on individual pharmacist, not depend on CPA enrollment.

To respond to the opinions statement illustrates that the majority of the pharmacists in accredited pharmacy welcomed the opportunity to extend their role and perceive that CPA make better use of the pharmacists' professional skills in good pharmacy service and clinical pharmaceutical care. Customer could conveniently access to full-time pharmacist who can offer counseling and health care. Professionalism in CPA program would increase acceptability from customers, communities and other health care personals.

Box 3: Pharmacist in accredited pharmacy with high pharmacy professionalism

He is 61 years old, was graduated bachelor's degree and had worked in this pharmacy for 29 years. His pharmacy located in city area, had 51-100 customers per day, had income 10,000–15,000 baht per day and had been source of pharmacy training. He worked between 8:00 am – 8:00 pm. He was member of the Community Pharmacy Association, the Pharmaceutical Association of Thailand Under Royal Patronage, and the Drugstores Club of Thailand. He had 16-20 CPE credits per year and assembled in conference and training 6-8 times per year. Every Tuesday, he goes give information of medicine and health care management to publicity by community radio channel.

His pharmacy had been accredited pharmacy as the first batch since 2002. His important reasons for enrollment were increasing on pharmacy professionalism and opening community pharmacist's role to patients for their assured on quality service. He discussed that CPA program was an opportunity for pharmacists to use professional skill in extended role and could make vision of good image of community pharmacy to patients and community.

"To be accredited pharmacy is not difficult; it depends on interest of individual pharmacist. It is not hardship more than capability of pharmacists. Almost criteria in standard of pharmacy are law and regulation which all pharmacies have to do and some criteria depends on pharmacists that they will have to increase their professional skills. Pharmacists who enroll in CPA program seemed as sacrificial pharmacists. Prior enrolled pharmacists might find early problems and painfulness before other person, but this painfulness is not my obstacle; it will be good chance for me to improve professional skills and develop system in my pharmacy"

"Before I enrolled in CPA program, many patients accepted me as pharmacist and accepted my pharmacy as long time setting. CPA program could increase image of my pharmacy and extreme acceptability from patients. I used acceptability and reliability from patients to be as inspiration."

"I put emphasis on a lot of counseling, following through with medications, educating the patient on self-care information. The high number of customer returning are good for business, but for me, it's more a question of personal values. My main objective is helping patients, and their care comes first in my job. For me, it's all about attaining loyalty and trust in professionalism."

CPA program relating with professionalism was valued different opinions within pharmacists in non-accredited pharmacy. Pharmacists in non-accredited pharmacy who discussed that CPA program related with pharmacy professionalism, explained similarly to pharmacists in accredited pharmacy. They gave more opinions that practice in CPA program depended on quality service and pharmacy professionalism more than business benefit. CPA program used professionalism in every process from drug selection to dispensing to patients, and other pharmacies who had full-time pharmacist on duty could practice with pharmacy professionalism but it might not complete in every processes. Opinions of pharmacists in non-accredited pharmacy who thought that CPA program did not concern with professionalism were

> "Every pharmacist can work with pharmacy professionalism without CPA enrollment. We can develop standard of pharmacy to be guideline for working. Working with professionalism depends on individual pharmacist more than enrollment in CPA program." (Interviewee 8)
>
> "Not only pharmacist in accredited pharmacy can work with pharmacy professionalism, all pharmacists can act. It depends on recognition of individual pharmacist; do not depend on CPA enrollment. Do you know that some accredited pharmacies dispense Viagra®, special controlled drugs, and anti-anxiety drugs without prescription to patients after they received accreditation?." (Interviewee 11)

4.2.1.6 Recognition of patients and community toward CPA; Many pharmacists in accredited pharmacy and nearly all pharmacists in non-accredited pharmacy commented that they did not see recognition and reliability of patient and community from CPA enrollment at this time. Main problem was lack of patient's awareness on CPA program. Many patients accepted and trusted on quality service of pharmacist, not CPA program. They thought that patients might slightly increase on recognition and reliability after they would be accredited pharmacy. Some pharmacists in accredited pharmacy explained that they gain more reliability after being accredited pharmacy, because patients saw physical pharmacy changing and different service from previous being accredited pharmacy.

There were various opinions on recognition of patients and community toward CPA program among pharmacists in accredited pharmacy.

> “I do not see patients who accept and realize on CPA program. Almost patients accept and rely on quality service of pharmacists (who can help them to relieve from disease, and provide good advice on medicine and self-care management) more than CPA program. I think that main problem is many patients do not know about CPA. If patients know about CPA and understand different benefits of accredited pharmacy from non-accredited pharmacy, recognition of patients and communities will distinct increase. Pharmacists will gain trust and respect from patients and this lead to the customer loyalty.” (Interviewee 1) The same opinion also came from other two pharmacists (Interviewee 5 and 7).
>
> “Patients have been little increasing on recognition of my pharmacy after I received accreditation as accredited pharmacy from the pharmacy council. Before I enrolled in CPA program, patients had high acceptance on my pharmacy because they accepted me as pharmacist who worked full-time on duty and accepted on my quality service. After my pharmacy is accredited pharmacy, patients are more acceptable because they see something are changed in my pharmacy such as new figure of pharmacy, logo sign of accredited pharmacy, different service from the past such as blood pressure and weight measure, and provide medical information in brochure and bulletin. I think that the most problem is lack of patient understanding on CPA program. Patients will give more acceptable than these, if they know about CPA and see difference between accredited pharmacy and non-accredited pharmacy.” (Interviewee 2) The same opinion also came from other two pharmacists (Interviewee 3 and 6).
>
> “Recognition of patients and community depend on ‘how pharmacist will access into community and receive acceptability from patients?’ Not only be as accredited pharmacy will be successful.” (Interviewee 4)

Box 4: Pharmacist in accredited pharmacy who wanted prestige, acceptability, and recognition from other pharmacists and patients as she was pharmacist in accredited pharmacy

She is 41 years old, graduated bachelor's degree and had worked in pharmacy for 22 years. Her pharmacy located in city area, had 31-50 customers per day, had income 1,000-5,000 baht per day and had been source of pharmacy student training. She was member of the Community Pharmacy Association, the Pharmaceutical Association of Thailand Under Royal Patronage, and the Drug Stores Club of Thailand. She had about 16-20 CPE credits per year and assembled in training 3-5 times per year.

"I enrolled in first batch of CPA program in year 2002. The advantage from enrollment in CPA program is knowledge from quality lecturers. They came to my pharmacy with small group of meeting and discussion by they did not want anything. They gave training to improve professional skill of pharmacists and they was my powerful to be successful in CPA program. In the past, I thought that I was not good pharmacist and could not help patients' problems because I did not have enough pharmacy knowledge and professional skills. After being accredited pharmacy, I received good training and would enhance my understanding of patients' views about medicine and health management. I think that if first batch and next batch of accredited pharmacy did on CPA program with good, it would affect interesting to other pharmacists to enroll in CPA program as well as other occupations could not work instead pharmacist professionalism in community pharmacies."

She wanted prestige, acceptability, and recognition from other pharmacists and patients as she was pharmacist in accredited pharmacy. She need increasing on CPA public promoting to customers and drew attention of the customers on benefit from service of CPA. This customers' awareness would then demand the pharmacy owners to enroll in the program. She expected that the Thai FDA and the Pharmacy Council would publish CPA program to customers to know about CPA program, such as 'what is CPA program?', 'how do you notice on accredited pharmacy', 'what are benefits from service of accredited pharmacy, and invited them to choose service from accredited pharmacy.

Nearly all pharmacists in non-accredited pharmacy discussed that patient accepted and relied on their pharmacy by they did not enroll in CPA program. Many patients trusted on them because they worked as full-time pharmacist and gave

quality service to patients. They thought that patients might be more acceptable after they would be accredited pharmacy, but would not gain high acceptable because small number of people know about CPA (only people who had high education knew about CPA). Additionally, some pharmacists in non-accredited pharmacy discussed that recognition and trust did not depend on CPA enrollment, it depended on quality service of pharmacist.

> "Logo sign of accredited pharmacy by the pharmacy council seem hardware which is external body to draw interesting and reliable from customers. The signification is software which is pharmacist who drives internal process to receive recognition and trust from customers." (Interviewee 8)
>
> "At this time, many customers select to go into pharmacy by convenience more than quality of service and acceptable of pharmacy." (Interviewee 10)

4.2.2 Means factors were divided as cost, knowledgeable on process of accreditation, availability of pharmacists, and standard of CPA.

4.2.2.1 Cost; Every pharmacist in accredited pharmacy invested on cost for restoring and improving pharmacy according to standard of pharmacy. All cost (excepted logo sign of accredited pharmacy) did not increase responsible investment and slightly impact them. Pharmacists in non-accredited pharmacy would invest on cost for restoring and adjustment pharmacy as same as pharmacists in accredited pharmacy and they might have other costs for CPA enrollment such as part-time pharmacist, assistant, and pharmacist knowledge's updating.

Every pharmacist in accredited pharmacy invested on cost for restoring and adjustment their pharmacy according to standard of pharmacy, and cost for logo sign of accredited pharmacy. Costs for restoring pharmacy were sticker, documented paper, brochure, blood pressure measurement, weight measurement, thermometer for room temperature's checking, sign of identical pharmacist and other signs in their pharmacy. They thought that all of these cost (except logo sign of accredited pharmacy), did not increase responsible investment and slightly impact them. An expensive price on logo sign of accredited pharmacy was a problem for them. Some accredited pharmacies did not put this logo sign in front of their pharmacy because it

was too expensive, was not necessary to show this logo sign, and did not affect their quality service for patients.

> "First batch of accredited pharmacy had to invest on logo sign of accredited pharmacy for 100,000 baht. Logo sign of accredited pharmacy was copyright of IBS Company which was only one company that received copyright's permission and signed in contact with the Pharmacy Council. I could not do this logo sign with other companies by myself. I had to expense much money to IBS Company. The price of this logo sign of IBS Company was very expensive but quality was not good, it damaged within short time. I had to repair this logo sign by myself. Many pharmacists in first batch of accredited pharmacies complained to the Pharmacy Council on very expensive price of logo sign by IBS Company. Finally, IBS Company was deleted from CPA program. Next batch of accredited pharmacy could do this logo sign by themselves. I do not believe that "why did I decide to invest on this extremely logo sign?." (Interviewee 2)

Pharmacists in non-accredited pharmacy, they would invest on cost for restoring and improving their pharmacy according to standard of pharmacy, and cost for logo sign of accredited pharmacy as same as pharmacists in accredited pharmacy. Other costs for CPA enrollment were expense for part-time pharmacist, expense for pharmacist assistant, and fee for pharmacist knowledge's updating in conference or training.

4.2.2.2 Knowledge on process of accreditation; All pharmacists in accredited pharmacy understood process of accreditation (from adequate level to good level) because they passed all steps of CPA process. In non-accredited pharmacy, they knew about CPA process but knowledgeable level was varying from little level to good level. They discussed more that they had little knowledge and did not know in in-depth details because they did not want to enroll at this time.

All pharmacists in accredited pharmacy understood process of accreditation because they passed all steps of CPA process, but they had different level of knowledge from adequate level to good level. Some of them were not assure that

present process was similar their process in the past years ago. May be some steps of process were adjusted for appropriation and up-to-date.

> "I had little knowledge on CPA process when I enrolled on CPA program because of less information about CPA in first batch. At the moment, I have good knowledge on CPA process because I passed all steps and I help many other pharmacies to enroll in CPA program. Sometime, Provincial Public Health Office in other provinces invited me to be an expert or consultant in CPA program for their province." (Interviewee 2)

All pharmacists in non-accredited pharmacy knew about CPA process but their knowledge was varying from little level to good level. They had little knowledge because they did not interest on CPA program and they received little information about CPA program from related organizations. Some of them had adequate knowledge, they knew from listening by other pharmacists, annual pharmacy's meeting in Nakhonratchasima province, and mailing from Nakhonratchasima Provincial Public Health Office and the pharmacy council. But they did not know in in-depth details because they did not want to enroll at this time. They said that they would want to know all details on CPA process when they would interest to enroll in CPA program.

> "I have good knowledge on CPA process because I help my husband's pharmacy to enroll in CPA program before and I am preparing my pharmacy for CPA enrollment at the moment." (Interviewee 8)

4.2.2.3 Availability of pharmacists

There was no problem on availability of pharmacists in accredited pharmacy because they regularly worked in pharmacy as full-time during duty hour. But in non-accredited pharmacy, sometime they had to go outside and they could not close their pharmacy because it affected number of customer and their income. They thought that they might hire part-time pharmacist to work instead them between period time that they could not work in pharmacy.

4.2.2.4 Standard of pharmacy; Standard of pharmacy should be revised to up-to-date and suitable for real practice. Pharmacists should receive opportunities to feedback in revising standard. They had problems on difficult

standard in four main topics. Standard 4 (Laws, regulations and ethics) was not the problem to comprehend because all pharmacists had to perform according pharmacy law and regulation.

Appropriation of standard

In accredited pharmacy, they discussed both inappropriate standard and appropriate standard.

> "I think, standard of pharmacy is not appropriate because some topics are very easy for practicality and some topics are very difficult to comprehend. Simple standards are strong promises with adequate area of service, tidy area, appropriate lighting, good ventilation, and report on special controlled drug and narcotic drug. These standards are pharmacy law and regulation that all pharmacies have to do. Eighty percents of standard is regulation which all pharmacies have to do, but twenty percents of standard depends on pharmacist." (Interviewee 1)

> "Standard of pharmacy uses theory and practice of other countries to be as references. It is not appropriate for Thai pharmacies at the moment because drug system in Thailand is not prescribing system that pharmacist can record all patients' documents." (Interviewee 2) The same opinion also came from one pharmacist (Interviewee 7).

> "Standard of pharmacy should be revised to up-to-date and suitable for present situation. Pharmacists should be provided with multiple opportunities to provide constructive feedback about CPA program to committee in revision of standard. Difficult standard should be deleted from standard of pharmacy." (Interviewee 4) The same opinion also came from other two pharmacists (Interviewee 5 and 7).

All pharmacists in non-accredited pharmacy thought that there was appropriate standard but it should be adjusted and revised every year for real situation. Two way communication and ideas from pharmacist were necessary in revising standard. Conference in revising standard should be composed with many related organization such as expert lecturers, accredited committees from the FDA and the pharmacy council, and pharmacists who practiced with standard of pharmacy.

Difficult topics in standard of pharmacy

In this study, two groups of pharmacist resembled in standards which were difficult to comprehend and least implemented as following

- Standard 1.2.4: must have a refrigerator for drugs that must be kept within 1-8°C under consistent temperature control and a record of same

  "It is not necessary to record temperate twice times a day if refrigerator is usable. One time a day especially at the maximum temperature in the afternoon is better." (Interviewee 2) The same opinion also came from other two pharmacists (Interviewee 5 and 11).

  "I suggest that separate refrigerator for drug storing should depend on amount of drug. It is wastage if few drugs have to be kept in separate refrigerator." (Interviewee 11)

- Standard 3.1.3: must have an effective system to manage drug expirations

  "It is very difficult to mark color sticker on all drugs for expired drug's control because I have lot of medicine in my pharmacy" (Interviewee 6) The same opinion also came from other three pharmacists (Interviewee 9, 10 and 15).

  "It is difficult to mark color of expired year in wholesale medicines." (Interviewee 9)

  "It is difficult to mark expired year for high turnover rate medicine." (Interviewee 15)

- Standard 3.1.5: must maintain a reserve of first-aid and life saving drugs and products for emergency cases such as antidotes that conform to the local community's needs

  "Almost patient usually go to hospital when they got emergency event. Normally, patients go to buy medicine in pharmacy when they have got common ill disease. Minor ailment is commonly found in community pharmacy; it is difficult to see emergency case

in pharmacy." (Interviewee 4) The same opinion also came from one pharmacist (Interviewee 8).

"It is not necessary for my pharmacy because my pharmacy locates near hospital (only 5 minutes by walking). Many patients decide to go hospital when they have emergency or critical events. Hospital is more appropriate and more accessible than pharmacy for emergency life." (Interviewee 10)

- Standard 3.2.4: on the dispensing process

  "I think that all information on labeling is too much for patient. Trade name and generic name of drug are not necessary when compare which indication because many patients do not know anything from English name. I always dispense little amount of medicine that I think it is enough for this treatment" (Interviewee 5)

  "I can not dispense medicine to all patients in sometime especially rush hour that many patients come to my pharmacy. My assistants help me to dispense over the counter medicines and they can help me to dispense medicine to patients who have common disease." (Interviewee 9)

- Standard 3.2.5: must conduct and keep drug profiles of patients who need continuous tracking

  "It is not appropriate for Thai patients at the moment because many patients emphasize on convenience, they do not want to waste time, and they do not realize on important of patient's medication profile. Furthermore, data for keeping in medication profile is not complete because drug system in Thailand, self medication without prescriptions by pharmacists is not found to be rampant." (Interviewee 7)

  "It is difficult to do on patient's medication profile for all patients. It uses long time to ask and record profile." (Interviewee 8) The same opinion also came from other three pharmacists (Interviewee 10, 11 and 13).

"Action on patient's medication profile may be effect to number of patient to get in my pharmacy, patient may continually decrease from they can not wait long time to buy medicine." (Interviewee 10)

"I have to select patient to do on medication profile. Criteria of patient selection are patient who receive many medicines, patient who has high risk of irrational drug use and patients who has complex disease." (Interviewee 11) The same opinion also came from one pharmacist (Interviewee 17).

- Standard 3.2.6: must track drug usage results to improve usage and advisory in accordance with accepted methods and ethics

  "I can not monitor patient's outcome if they do not come back again to my pharmacy." (Interviewee 2) The same opinion also came from other four pharmacists (Interviewee 3, 4, 6 and 8).

- Standard 5.2: must cooperate with authorities in reporting and giving information about illegal drugs and narcotics

  "It is not easy to know information of drug abuse and narcotic utilization." (Interviewee 1) The same opinion also came from other two pharmacists (Interviewee 9 and 14).

  "I am not sure that if I know on narcotics information, I will tell police because I worry on my safety." (Interviewee 10) The same opinion also came from one pharmacist (Interviewee 14).

Other opinions on difficult topics of standard are in the following

"Standard 2.2.6 (must keep a service record for patients who need continuous tracking such as those who have chronic diseases. Records include, for instance, drug allergies, incidence and nature of adverse reactions to drugs and health products usage) is difficult to comprehend because many people like convenience, many customers do not like answer in many questions and they do not want to lose time for record, and Thai drug system is not prescribing system." (Interviewee 7)

"Standard 2.1.2 (must provide services under the supervision of the on-duty pharmacist) is difficult for me when I have to go outside between

my duty time. I have to invest on part-time pharmacist." (Interviewee 10) The same opinion also came from other four pharmacists (Interviewee 12, 13, 15 and 17).

"Standard 2.1.2 should be decreased in strictness; such as OTC drugs can dispensed by pharmacist assistant when pharmacist does not work in pharmacy, and drugs classified as dangerous and prescription drugs must be dispensed by pharmacists." (Interviewee 15)

"I do not know 'how can I identify real customer's need?' according to Standard 2.2.5 (must perform identification of the real needs of customers) is not easy to find indicator of customer's need." (Interviewee 8)

"I think, quality indicator in customer's satisfaction according to Standard 2.2.8 (must establish and track key quality indicators such as customer satisfaction and number of patients with drug profiles) increases documented report by it does not have benefits to pharmacy. Normally, all pharmacies have expectation that patient will satisfy their services." (Interviewee 11)

"Standard 5.5 (must participate in preventing problems related to improper drug usage in the community) is difficult to comprehend because I do not have much time to participate with community" (Interviewee 8)

Furthermore, both two groups discussed on Standard 4 (Laws, regulations and ethics) that this standard was not problem to comprehend because all pharmacists had to perform this standard according pharmacy law and regulation.

4.2.3 Opportunity factor Law enforcement was opportunity factor that results were explained as following:

Almost pharmacists in two groups said that post-surveillance pharmacy by law did not affect decision for CPA enrollment. One pharmacist in non-accredited pharmacy argued that it would effect his decision if authorities in pharmacy's post-surveillance frequently effort to force him to enroll in CPA program. Many pharmacists in two groups agreed with compulsion all pharmacies to be accredited pharmacies by law enforcement because it increased quality service and value of

pharmacy professionalism to public trust and accountability. They suggested that for pharmacy arrangement, it should be established in future. One pharmacist in accredited pharmacy disagreed with law enforcement because it was too much force and would make pressure to pharmacy. And three pharmacists in non-accredited pharmacy disagreed with law enforcement because it would affect drug distribution in rural area, and the FDA should adjust standard of pharmacy by law and encourage having full-time pharmacist in all pharmacies before thinking to process on CPA program by law enforcement.

Did post-surveillance pharmacy by law affect decision for CPA enrollment?

Almost pharmacists in two groups said that post-surveillance pharmacy by law did not affect their decision for CPA enrollment because it was law which all pharmacies had to do via criteria and were checked at least one time a year. Criteria on post-surveillance were not difficult when compared with standard of CPA. And nearly all pharmacies type I did not have problems and passed on this surveillance.

One pharmacist in non-accredited pharmacy argued that post-surveillance pharmacy by law affected his decision.

> "If authorities in pharmacy's post-surveillance frequently effort to force me to be CPA, it will effect my decision to enroll in CPA program." (Interviewee 13)

Enforcing pharmacy to be accredited pharmacy by law enforcement

Six pharmacists in accredited pharmacy and seven pharmacists in non-accredited pharmacy agreed with enforcing all pharmacies to be accredited pharmaies by law enforcement because it increased high levels of pharmacy quality service, enhanced all pharmacies to have similar high standard, increased value of pharmacy professionalism to public trust, ensured in quality service, and increased rational drug utilization in patients. They suggested that it was better to comprehend by law enforcement in the future because many pharmacies wanted time to improve their pharmacies through standard of pharmacy.

> "Government should set phase for CPA enrollment such as starting from all pharmacies have to practice through pharmacy law, after that

little continuously increase on strict criteria for pharmacy until go to standard of CPA." (Interviewee 1)

"CPA enrollment by law enforcement should be established in the future. Law enforcement strategy encouraging the pharmacists to enroll in CPA program should also consider together with public promoting. At this time, government should set full-time pharmacists to work in all pharmacies and accredited committees should reaccredit accredited pharmacy every year." (Interviewee 5)

"Pharmacy owners have to invest on part-time pharmacist due to criteria of standard which always have full-time pharmacist on duty. I think, it will affect increasing price of medicine for sale to patients due to increasing cost of pharmacist." (Interviewee 12)

One pharmacist in accredited pharmacy and three pharmacists in non-accredited pharmacy disagreed on compelling all pharmacies to enroll in CPA program by law enforcement as following

"It is too much force and will make pressure to pharmacy. CPA program should process action by interesting and voluntary. Results of action by law enforcement will not be perfect when compare with results of action by voluntary with interesting." (Interviewee 7)

"Compelling pharmacies to enroll in CPA program will affect drug distribution system in rural area. If pharmacy in rural area can not open, problem on drug distribution to retail shop will occur and affect patients' irrational drug use." (Interviewee 8)

"The Thai FDA should adjust standard of pharmacy by law to have higher criteria by use standard of CPA as basic guideline that every pharmacies can do. It is better than enforcing all pharmacies to be CPAs by law enforcement." (Interviewee 9)

"At this time, government should cancel type II pharmacy and type I pharmacy which did not have full-time pharmacist on duty before process on CPA law enforcement." (Interviewee 11)

In overall, lack of business benefit and unaware of customer on CPA were cited as main barriers to enroll in CPA program. Many customers did not know about

CPA, did not know benefits from CPA, did not see difference of accredited pharmacy from non-accredited pharmacy, and did not receive public promoting from government or concerned organization. Other barriers were fee for applying in CPA program (3,000 baht), cost for restoring and improving pharmacy according to the standard of pharmacy, many steps and long time on CPA process from 1) self evaluation 2) external inspection until the last step 3) recommendations, difficult standard of pharmacy to practice in the real situation, and not confidence on stable of CPA program.

Other barriers in accredited pharmacy were a) lack of support from government and concerned organizations, b) non-understanding communication between pharmacist and accredited committees who were high egoistical servant in government and university lecturer, c) misunderstanding on CPA information, and d) waste time for themselves and their family. In additionally, other factors in non-accredited pharmacy were a) denial on CPA program because no business benefit that differed from non-accredited pharmacy, b) unavailability of pharmacist during pharmacy work-hours criteria because sometime they had to go outside; it were not good if they frequently closed pharmacy (may be they had to hire part-time pharmacist to work instead them when they could not work), c) characteristic of some pharmacists who like freedom and did not like to do under strict rule, and d) nearly competitive pharmacy did not enroll on CPA program. Pharmacists in non-accredited pharmacy expressed their concerns on barriers of business benefits and commercial competition more than pharmacists in accredited pharmacy.

CHAPTER V
DISCUSSIONS

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This chapter discusses about the research methodology related issue, the demographic data of pharmacy-owning pharmacists and the study results. The details of the discussions are in the following.

5.1 Research methodology related issue

The strong point of this study is mixed methods compile of qualitative and quantitative which are used to explain factors affecting pharmacy-owning pharmacists' decision to enroll in CPA program. From literature reviews, there were many quantitative studies about opinions in CPA program **(18, 21, 23, 31)** but these perhaps not adequately taken into account this complexity and investigated all factors. Also, in Thailand has a previous study of opinions on standard of pharmacy which consisted of a survey by questionnaire and in-depth interview **(22)**. But, this previous study focused only standard of pharmacy by survey in 3,240 participants and confirmed the findings by in-depth interview in 3 participants.

In this study, questionnaire is used to explore demographic data of pharmacies, demographic data of pharmacy-owning pharmacists and overview of pharmacists' decision to enroll in CPA program. Because questionnaire can not represent all opinions and explain more details of pharmacists' decision to enroll in CPA program, thus in-depth interview is used to explain deeper opinions of pharmacists. But results of in-depth interview might have bias from interviewer. Thus, this study is carried out by qualitative and quantitative methods to explain factors affecting pharmacy-owning pharmacists' decision to enroll in CPA program that could be used to triangulate in the interpretation of results.

5.2 Discussions based on the study results

5.2.1 Demographic data of pharmacy-owning pharmacists

Demographic data of most pharmacists in accredited pharmacies were established and worked in pharmacy for many years. Their pharmacies located in urban area, had been opened for many years (range from 8-29 years) and were source

of pharmacy student training. In contrast, Demographic data of many pharmacists in non-accredited pharmacies just graduated bachelor's degree and worked in pharmacy for 1-2 years. Additionally, some pharmacies just changed from type II pharmacy to be as type I pharmacy and were not source of pharmacy student training.

Therefore, pharmacists who have characteristics like pharmacists in accredited pharmacy should be addressed as target group for encouragement to enroll in CPA program.

5.2.2 Factors affecting pharmacy-owning pharmacists' decision to enroll in CPA program

Results of the questionnaires in both two groups showed similar trend that recognition and extension roles of pharmacy professionalism was rated the most important positive factor for enrollment in CPA program, and business benefit was rated the least important positive factor for enrollment in CPA program. However, there were different from results of in-depth interview that professionalism was the most important factor for pharmacists in accredited pharmacies but incentives especially business benefit was the most important factor for pharmacists in non-accredited pharmacies. Because number of respondents in questionnaire was small (n=33) and variation on weight of score by individual pharmacists, these could not give details of pharmacists' opinions about this finding.

5.2.2.1 Motive factors

Pharmacy professionalism was an important motive factor that influences an intrinsic motivation and result in pharmacists' decision to enroll in CPA program. This resonates with previous studies **(18, 32)** that pharmacists in accredited pharmacy were aware of pharmacy professionalism and wanted to extend their roles of pharmacy professionalism as well as provide good pharmacy services to patients. They saw value of joining CPA program in the way that they had opportunity to provide good pharmaceutical care to patients. Patients would gain a lot of benefits from the good pharmacy service and trust in professionalism of pharmacists in accredited pharmacy. CPA program involved professionalism in every process from drug selection to dispensing it to patients. Pride of pharmacy professionalism was intrinsic motivation, remaining within individual pharmacist, and influenced pharmacist to enroll in CPA program. This motivation occurred when pharmacists were passionate

about professionalism and performed it for the sheer pleasure of it. **(24)** Increasing on pride and recognition of pharmacy professionalism can be strategically directed to address the real intrinsic motivation to promote CPA program and encourage pharmacists to enroll in CPA program. There are numerous techniques to help pharmacists develop positive professional behaviors. Role modeling is the most important strategy in order to improve professional behavior. Pharmacists look to their preceptors to model the appropriate behavior expected of pharmacy profession. Preceptors can influence pharmacists' professionalism most positively by working with the individual pharmacist's background, strengths and weaknesses, providing a positive learning environment, and by modeling those behaviors that allow one to successfully practice pharmaceutical care. Pharmacists also learn from observation of preceptors actively engaging in professional association activities, community involvement and continuing education. **(27)** The first strategy for improving professionalism is to provide for student during learning in university. Study of students' professionalism **(33)** indicated that students' professionalism were associated with their institutional experiences and socialization. Lecturers, friends, academic development, attitude to the profession, and the institutional environments were also important factor for developing and enhancing students' professionalism. Pharmacy schools should take account of these factors and use them as the resources for setting their future strategic plans. We can measure level of professionalism in pharmacy students from professionalism scale in a previous study **(34)** which developed professionalism scale of Schack and Hepler to measure level of professionalism in pharmacy students in 6 aspects: acceptation in professionalism organization, belief in public service, belief in self-regulation, belief in professional commitment, belief in autonomy and belief in continuing education.

Incentive was an important motive factor that influences an extrinsic motivation and result in pharmacists' decision to enroll in CPA program. All pharmacists in accredited pharmacies were not interested in business benefits. For pharmacists in non-accredited pharmacies, business benefit was the main factor for their decision whether to join CPA program or not. They did not see any benefit of joining it. Inadequate financial rewards described appear to be substantial; pharmacists in non-accredited pharmacies delayed enrolling and taking the next step to enroll in

CPA program. This finding accentuates the need of business benefits for pharmacists in non-accredited pharmacy to enable them to enroll in CPA program. The strategy encouraging pharmacists to enroll in CPA program should also consider together with business benefit. Similarly, the previous study **(16, 18)** indicated that barriers for enrollment in CPA program were non motivation of business benefit and non potential increasing competition from enrollment.

All pharmacists seem to understand concept of CPA program. But in details of in-depth interview, some participants in non-accredited pharmacies may not be clear about the purposes and real meaning of CPA program, so they will have no motivation to enroll in CPA program. Participants in accredited pharmacies mostly focused on quality of pharmacists and service while participants in non-accredited pharmacies mainly focused on physical figure and external process of CPA program. It indicates that CPA promoting can not communicate the objectives and real meaning of CPA program to all pharmacists. Also, many consumers did not previously know about CPA program. Information about CPA program, differentiation of accredited pharmacy from non-accredited pharmacy and consumers' benefits from accredited pharmacy should be addressed in public promoting to customers. Finally, drawing attention of the consumers to go into accredited pharmacy would then demand the pharmacists to enroll in CPA program. A previous study **(23)** showed that customer satisfaction scores towards services received from accredited pharmacies for aspect of premises, equipment and other facilities, aspect of quality management and aspect of good pharmacy practice were higher than those towards services from non-accredited pharmacies.

Support was motive factor that influences an extrinsic motivation and affects pharmacists' decision to enroll in CPA program. The results of in-depth interview confirmed the findings of questionnaire and previous study **(16, 19)** that lack of support from concerned organizations included CPA public promoting to customers, CPA mentor system, and pharmacists' knowledge improvement required from training course and continuing education program were identified as barriers to enroll in CPA program. The results warrant urgent actions of co-operation from Provincial Public Health Office, the FDA, the Pharmacy Council and related organizations to promote CPA program and support pharmacists to enroll in CPA

program (such as support staff, CPA mentor system, training course, and encouragement accredited pharmacy in becoming parts of National health insurance system). At present, Nakhonratchasima Provincial Public Health Office is proceeding on CPA mentor system for pharmacists who are interested to enroll in CPA program and establish new program which accredited pharmacies are included in public health insurance to provide pharmacy service in 3 activities (screening, refill medication, and health education). Pharmacist who is working in this program will receive dispensing fee and pharmacist fee from the National Health Security Office after providing pharmaceutical care to patients. This period is the first step that provides pharmacy service for Diabetes Mellitus and Hypertension patients who are in stable stage. And next step will extend to other patients' condition.

5.2.2.2 Means factors

Cost for restoring and improving pharmacy according to standard of pharmacy slightly impact and did not increase their investment. First batch of accredited pharmacy had to invest on logo sign of accredited pharmacy for 100,000 baht with IBS Company which was only one company that received copyright's permission with the Pharmacy Council. This expensive price was a big problem for pharmacists who wanted to enroll in CPA program. At present, accredited pharmacies can do on this logo sign by themselves. Also, results of this study suggested that logo sign of accredited pharmacy should be not expensive and fee for applying in CPA program should not be charged if government really wanted to stimulate non-accredited pharmacy to enroll in CPA program.

Furthermore, standard of pharmacy was means factor that influences an extrinsic motivation and result in pharmacists' decision to enroll in CPA program. Results of questionnaire showed that difficulty of standard of pharmacy in practicality was rated as the most important barrier to enroll in CPA program. The results of in-depth interview confirmed this finding and resonated with previous study that standard 2 and standard 3 were difficult to comprehend in practicality **(22, 31)**, especially standard 2.2.6 (must keep a service record for patients who need continuous tracking), standard 2.2.8 (must establish and track key quality indicators), standard 3.1.5 (must maintain a reserve of first-aid and life saving drugs and products for emergency cases), standard 3.2.5 (must conduct and keep drug profiles of patients who need continuous

tracking), and standard 3.2.6 (must track drug usage results to improve usage and advisory in accordance with accepted methods and ethics). To date, Thai drug system (non-separation role from physicians, dispensing without prescription, pharmacists are unclear about keeping patients' medication profile record) and customers' behavior (they emphasize on convenience and do not want to waste time for profile record) may reflex the development of the standard of pharmacy. In addition, standard of pharmacy should be revised to up-to-date and suitable for real practice. Pharmacists should have opportunity to provide constructive feedback about CPA program in revising standard for practicality. The standard of pharmacy should be developed by a group of practical pharmacists, expert lecturers, and accredited committees from the FDA and the Pharmacy Council.

5.2.3 Suggestion to promote CPA program

The findings of this study suggest that promoting CPA program should consider both intrinsic and extrinsic motivation. Extrinsic motivation can have an immediate and powerful effect, but it does not necessarily last long. The intrinsic motivation, which is concerned with the "quality of working life", is likely to have a deeper and longer-term effect because it is inherent in individuals and not imposed from outside. **(8)** We can not use only intrinsic motivation interventions (such as feeling that CPA program is important, it develops professional skill and ability, and provides opportunity for advancement) as a short-term strategy for immediate enrollment in CPA program. Intrinsic motivation is surely effective but it takes time to create motivating environment. Therefore, sometimes we have to turn to extrinsic motivation such as advantages, incentives (e.g. benefit, premium, reward and promotion), staff support, recognition, praise and law enforcement in order for pharmacists to see the value of CPA program. **(24)** In contrast to a previous study of motivation and obstacle to join pharmacy accreditation program that promotes the CPA program might need some psychological approaches. Psychological techniques should be applied to build up intrinsic motivation not the extrinsic motivation. **(17)**

CHAPTER VI
CONCLUSIONS AND RECOMMENDATIONS

This chapter provided the conclusions, limitations of study, recommendations of CPA program to concerned organizations and recommendations for further study. The details are in the following.

6.1 Conclusions

The results showed that the pharmacists in accredited pharmacy had prominent intrinsic motivation compared to pharmacists in non-accredited pharmacy. Pharmacists in accredited pharmacy were aware of pharmacy professionalism and wanted to extend their roles of pharmacy professionalism as well as provide good pharmacy services to patients. They saw value of joining CPA program in the way that they had opportunity to provide good pharmaceutical care to patients. For pharmacists in non-accredited pharmacy, business benefit was the main factor that influenced an extrinsic motivation and result in decision to enroll in CPA program. They did not see any benefit of joining it and they said that most consumers did not know about CPA program and could not differentiate between accredited pharmacy and non-accredited pharmacy. Other factors were CPA awareness, futility, support, recognition of patients and community, cost, availability of pharmacists, standard of pharmacy and law enforcement. This study suggested that public promoting on CPA program should consider both intrinsic and extrinsic motivation. The standard of pharmacy for CPA program should be revised for the program improvement, especially standard 2 (quality management) and standard 3 (good pharmacy service).

6.2 Limitations of study

There are various limitations. First, this study was conducted from full-time pharmacists in type I pharmacy, it does not contain non-full time pharmacists in type I pharmacy and pharmacy owner in type II pharmacy. The findings may not represent the situation in all types of pharmacy that probably they will have their own strategies for implementing the CPA program. Second, these differences in opinions may vary with demographic variable; however the study was not designed to investigate this.

6.3 Recommendations of CPA program to concerned organizations

This study suggests the following recommendations of CPA program to concerned organizations both at national level and provincial level.

1. Improving on pharmacy professionalism by role modeling and providing for student during learning in university are strategies of intrinsic motivation to encourage pharmacists to enroll in CPA program for future plan.
2. The strategy encouraging pharmacists to enroll in CPA program should also consider together with business benefit.
3. Purposes and real meaning of CPA program on quality of pharmacists and service should be communicated to all pharmacists. And information about CPA program should be addressed in public promoting to customers.
4. Support from Provincial Public Health Office, the Thai FDA and the Pharmacy Council need to be incorporated to persuade pharmacists to enroll in CPA program.
5. Standard of pharmacy especially standard 2 and standard 3 should be revised to up-to-date and suitable for real practice. Pharmacists should have opportunity to provide constructive feedback about CPA program in revising standard for practicality.

6.4 Recommendations for further study

1. Ideally, results of study should be based on unbiased. But the bias of results due to interviewer in in-depth interview might occur. For further study, focus group is likely to be the best method to minimize this bias.
2. Further study should focus on professional characteristics of pharmacists in accredited pharmacy and non-accredited pharmacy to indicate their professionalism and encourage professional strategies for enrollment in CPA program.
3. The benefits and risks of CPA program should be critically examined to ensure the best interests of pharmacists and the customers they serve.
4. Appropriate model of accredited pharmacy which patients and community need (customer-based system) is the next thing to study. Research on

strategy for CPA public promoting to customers and the development of a tool in customer perspective need to be more investigated.

REFERENCES

(1) The Thai Pharmacy Council. Standard of Pharmacy [Online]. Available from: http://www.pharmacycouncil.org/html/htmlexpand/drug_store04.html [2007, June, 1]

(2) The Office of Pharmacy Advancement Project. Background of Community Pharmacy Accreditation [Online]. Available from: http://newsser.fda.moph.go.th/advancepharmacy/index.php?cmd=2 [2007, June, 5]

(3) The Thai Food and Drug Administration. FDA news on January 2006: Encourage Pharmacy Entrepreneurs into Accreditation [Online]. Available from: http://webnotes.fda.moph.go.th/information2549.nsf/ข่าวอย./A003B0C593E16BBC472571080081ED20?opendocument [2007, June, 5]

(4) The Office of Pharmacy Advancement Project. Data of Community Pharmacy Accreditation in Thailand. Nonthaburi : the Thai Food and Drug Admistration, 2009.

(5) Department of Health Consumer Protection in Nakhonratchasima. Data of Pharmacies in Nakhonratchasima Province.xls. Nakhonratchasima : Nakhonratchasima provincial public health office, 2008.

(6) Plianbangchang P., Janpratat S., and Thongphoem T. Steroid Tablet Inappropriate Selling Behavior among Pharmacies in Muang District, Phitsanulok. Journal of Health Science 10 (2001) : 595.

(7) Smith E. and Rebori M. Forestry extension – assisting forest owner, farmer, and stakeholder decision making. Factors Affecting Property Owner Decisions about Defensible Space, 404-408. Lorne, Australia : International union of forestry research organization, 2001.

(8) Graduate School of Public Administration NIDA. Human Resource Management. 3. Bangkok : NIDA, 2006.

(9) Petri L and Govern J. Motivation: Theory, Research, and Applications. 5. United States of America : Vichi Knight, 2004

(10) Harris R. Introduction to Decision Making [Online]. Available from http://www.virtualsalt.com/crebook5.htm [20079, February, 1]

(11) Wibulpolprasert S., Chokvivat V., and Tantivess S. Thai Drug System. 1. Bangkok : the Thai Food and Drug Administration, 2002.

(12) Panyawuthikrai P. et al. Community Pharmacy Accreditation under the Thai Pharmacy Council. Bangkok : the Thai Pharmacy Council, 2006.

(13) The Office of Pharmacy Advancement Project. Pharmacy standards. Nonthaburi : the Thai Food and Drug Admistration, 2009.

(14) The Thai Pharmacy council. Hot news: Free Apply for Adjustment in Appearance of Pharmacy Program [Online]. Available from: http://www.pharmacycouncil.org/html/htmlexpand/hotnew.html [2007, June, 15]

(15) Drug Control Division, the Thai Food and Drug Administration. Statistic of Pharmacy License in Thailand [Online]. Available from: http://wwwapp1.fda.moph.go.th/drug/zone_search/files/sea001d01.asp/ [2009, February, 1]

(16) Krissanapanee S., Vipaswong K., and Lohakijja W. Community Pharmacy Owner's Opinion on Pharmacy Accreditation Project. Degree of Bachelor of Pharmacy, Department of Social and Administrative Pharmacy, Faculty of Pharmaceutical Science, Chulalongkorn University, 2006.

(17) Arkaravichien W. et al. Motivation and Obstacle to Join Pharmacy Accredition Projectl. The 21st Federation of Asian Pharmaceutical Association Conference. Japan : Pacifico Yokohama, 2006.

(18) Chalongsuk R. et al. Pharmacy Entrepreneurs' Opinion Survey on Barriers for Enrolling in Community Pharmacy Development and Accreditation Program. J Health Res 21 (2007) : 43-52.

(19) The Office of Pharmacy Advancement Project. Handbook of Office of Pharmacy Advancement Project's Conclusion in 2005. 1. Nonthaburi : the Thai Food and Drug Administration, 2005.

(20) Arkaravichien W. and Arkaravichien T. Understand the Difficulty of Getting Community Pharmacy Accredited by Transtheoretical Model. The 21st Federation of Asian Pharmaceutical Association Conference. Japan : Pacifico Yokohama, 2006.

(21) Phorod J. and Samritjkorn V. A Survey of Pharmaceutical Care in Accordance with Standard Requirement of Pharmacy Provided by Community Pharmacy in Phisanulok. Degree of Bachelor of Pharmacy, Department of Clinical Pharmacy, Faculty of Pharmaceutical Science, Narasuan University, 2004.

(22) Plianbangchang P. and Hongsamut D. Pharmacy Owners' Opinions on Pharmacy Standards of the Pharmacy Council: A Nation-wide Survey. Journal of Health Science 15 (2006) : 111-122.

(23) Nilaward K., Niramitkusol N., and Jitsooksom S. Customer Satisfaction towards Services of Accredited and General Pharmacies. Journal of Health Science 15 (2006) : 133-140.

(24) Thiagi group. Creating a Motivation Environment. Rochester : University of Rochester Press, 2004.

(25) Hansson S. Decision theory. 1. Stockholm : Uppsala University, 1994.

(26) Dana H. et al. Development and Testing of an Instrument to Assess Behavioral Professionalism of Pharmacy Students. American Journal of Pharmaceutical Education 64 (2000) : 141-150.

(27) Dana H. Improving Student Professionalism During Experiential Learning. American Journal of Pharmaceutical Education 70 (2006) : 1-6.

(28) Marie A et al. Instructional Design and Assessment. American Journal of Pharmaceutical Education 70 (2007) : 1-6.

(29) Freidson E. Professionalism Reborn: Theory, Prophecy, and Policy. England : Great British Blackwell, 1994.

(30) Marshall M. Sampling for Qualitative Research. Family Practice 1996 : 522-525.

(31) Boonchoong N. et al. Compliance with the Community Pharmacy Project after Accreditation by the Pharmacy Council. KKU Res J 12 (2007) : 53-65.

(32) Rungkanawut S., Chongthanatrakol N., and Kaewthitrak K. Patients' Understanding, Acceptance, and Need of Pharmaceutical Care Services from Accredited Community Pharmacies in Bangkok. Degree of Bachelor of Pharmacy, Department of Social and Administrative Pharmacy, Faculty of Pharmaceutical Science, Chulalongkorn University, 2006.

(33) Ploylearmsang C. et al. Student's Professionalism and Leadership Influenced by Pharmacy Education and Institutional Socialization. Isan Journal of Pharmaceutical Science 2 (2006) : 1-12.

(34) Lerkiatbundit S. The Development of Professionalism Scale for Pharmacy Students. Mahidol University Journal of Pharmaceutical Sciences 25 (1998) : 17-26.

APPENDICES

Appendix A: Questionnaire

Understanding decision of pharmacy-owning pharmacists to enroll in the community pharmacy accreditation program in Nakhonratchasima province

Part 1: Demographic data of pharmacies

1.1 Status of enrollment in CPA program

- ❍ Accredited pharmacy
- ❍ Non-accredited pharmacy which are interested to enroll in CPA program
- ❍ Non-accredited pharmacy which are not interested to enroll in CPA program

1.2 Setting area

- ❍ Urban area
- ❍ Rural area

1.3 Average customer per day

- ❍ ≤ 30 customers
- ❍ 31 – 50 customers
- ❍ 51 – 100 customers
- ❍ More than 100 customers

1.4 Average income per day (Only income from medicines)

- ❍ ≤ 1,000 baht
- ❍ 1,001 – 5,000 baht
- ❍ 5,001 – 10,000 baht
- ❍ 10,001 – 15,000 baht
- ❍ More than 15,000 baht

1.5 Source of pharmacy student training

- ❍ No
- ❍ Yes, and being at present
- ❍ Yes, but in the past

1.6 Duration year of pharmacy opening…..……..…years

Part 2: Demographic data of pharmacy-owning pharmacists

2.1 Sex

- ❍ Male
- ❍ Female

2.2 Level of education

- ❍ Bachelor's degree of pharmaceutical science
- ❍ Master's degree (Master of ……)
- ❍ Doctor's degree (Doctor of…….……)

2.3 Member of pharmacy association

- ❍ Community Pharmacy Association
- ❍ The Pharmaceutical Association of Thailand Under Royal Patronage
- ❍ The Drug Stores Club of Thailand
- ❍ Association of Hospital Pharmacy
- ❍ Other pharmacy association.....

2.4 CPE-credit per year (average within 5 years)

- ❍ 0 credit
- ❍ 1 -5 credits
- ❍ 6 - 10 credits
- ❍ More than 10 credits

2.5 Frequency of pharmacy training program and conference per year

- ❍ No
- ❍ 1 - 2 times per year
- ❍ 3 - 5 times per year
- ❍ 6 - 8 times per year
- ❍ More than 8 times per year

2.6 Age…….years

2.7 Working year in this pharmacy……years

2.8 Working hour per day……...hours

Part 3: Pharmacists' opinions for enrollment in CPA program

3.1 Positive factors for enrollment in CPA program

Please check ✓ in the block that relate with your opinion

Note: number from 0 to 5 are rated the importance of positive factors on Likert scale

0 = not important 1 = very little important 2 = a little important

3 = moderate important 4 = great important 5 = very great important

Open answers of other positive factors were opened for respondent to add at the end of this topic.

Positive factors for enrollment in CPA program	**Rate the importance of positive factors**					
	0	**1**	**2**	**3**	**4**	**5**
1. Realization and extension roles of pharmacy professionalism						
2. Pharmacy improvement						
3. Providing good pharmacy service to patients						
4. Providing good image of pharmacy to patients and other medical staffs						
5. Realization on important and benefit of CPA program						
6. Acceptable from patients and community						
7. Cooperation with the Pharmacy Council and Nakhonratchasima Provincial Public Health Office						
8. Source of pharmacy student training						
9. Business benefit						
10. Additional positive factors						
1						
2						
3						
4						
5						

3.2 Barriers for enrollment in CPA program

Please check ✓ in the block that relate with your opinion

Note: number from 0 to 5 are rated the importance of barriers on Likert scale

0 = not important 1 = very little important 2 = a little important

3 = moderate important 4 = great important 5 = very great important

Open answers of other barriers were opened for respondent to add at the end of this topic.

Barriers for enrollment in CPA program	**Rate the importance of barriers**					
	0	**1**	**2**	**3**	**4**	**5**
1. Difficulty of standard of pharmacy in practicality						
2. Lack of supporter from concerned organizations						
3. Cost for restoring and adjustment pharmacy according to standard of pharmacy						
4. Fee for applying in CPA program (3,000 baht)						
5. Non-assured in stable of CPA program						
6. CPA process						
7. No advantages from CPA program						
8. Denial (feeling to refuse in CPA enrollment)						
9. Irresponsibility (it is not my job to enroll in CPA program)						
10. Unawareness and unknowledgeable on CPA program						
11. Other barriers						
1						
2						
3						
4						
5						

3.3 Difficulty to join in CPA program

❍ Very easy

❍ Easy

❍ Moderate

❍ Difficult

❍ Very difficult

3.4 Difficulty to comprehend the standard of pharmacy

Please check ✓ in the block that relate with your opinion

Note: number from 1 to 5 are rated the difficulty to comprehend standard of pharmacy on Likert scale

1 = very easy 2 = easy 3 = moderate

4 = difficult 5 = very difficult

Standard of pharmacy was categorized into 5 main topics as

Standard I: Premises, equipment and facilities

Standard II: Quality management

Standard III: Good pharmacy practice

Standard IV: Laws, regulations and ethics

Standard V: Services and community participation

Standard of pharmacy	**Rate the difficulty to comprehend standard**					**Suggestion for standard of pharmacy**
	1	2	3	4	5	
Standard I: Premises, equipment and other facilities 1.1 Premises 1.1.1 Must be situated in a strong, permanent building and have adequate space for pharmacy services						
1.1.2 Must be tidy, have adequate lighting and ventilation, and also a fire extinguishing system						
1.1.3 Must be able to control the environment of the storage to be suitable for storing each product						

Standard of pharmacy	Rate the difficulty to comprehend standard					Suggestion for standard of pharmacy
	1	2	3	4	5	
1.1.4 Must have the pharmacist's service area that appears to customers to be an obviously separate area						
1.1.5 Must have a private and appropriate area for counseling						
1.1.6 Must provide customers with an area exhibiting health education materials. Materials intended for commercial advertisement must have their own area separate from the former						
1.1.7 Must clearly display the following: sign indicating the place is a licensed pharmacy; name and photograph of the on-duty pharmacist with license number and time on duty; other signs and plates as required by laws and regulations for specific licenses or drugs, signs indicating the area for each service						
1.2 Equipment 1.2.1 Must have the equipment necessary for drug monitoring such as weight scales, height scales and thermometers						
1.2.2 Must separate the drug counting trays for Penicillines, Sulfonamides, NSAIDS and others						
1.2.3 Must keep the equipment clean and prevent contamination						
1.2.4 Must have a refrigerator for drugs that must be kept within 1-8°C under consistent temperature control and a record of same						
1.2.5 Drug containers: must be the original containers with the legal class of the medicine identified and suitable for						

Standard of pharmacy	Rate the difficulty to comprehend standard					Suggestion for standard of pharmacy
	1	2	3	4	5	
dispensing to patients and able to protect the drug from deterioration						
1.3 Facilities 1.3.1 Must have resources, text books or other facilities to access necessary information						
1.3.2 Must have auxiliary labels and documents to support services as appropriate						
1.3.3 Should have tools and equipment enhancing patient compliance						
Standard II: Quality management 2.1 Personnel 2.1.1 Operators: Must be licensed pharmacists and be at the pharmacy during the service hours, Must clearly identify themselves as on-duty pharmacists by putting on a uniform as specified by the Pharmacy Council, Should have good social relations and the ability to communicate appropriately, Must have good personal hygiene						
2.1.2 Assistants (if any): Must clearly identify themselves as assistants and not as pharmacists, Must provide services under the supervision of the on-duty pharmacist, Must have good personal hygiene						
2.2 Quality assurance 2.2.1 Must have all the necessary documents such as prescriptions, categorized related regulations and standard practice guidelines						

Standard of pharmacy	Rate the difficulty to comprehend standard					Suggestion for standard of pharmacy
	1	2	3	4	5	
2.2.2 Must have an appropriate document and information storage system						
2.2.3 Must display clearly patients' rights						
2.2.4 Must perform risk analysis and establish a risk management method						
2.2.5 Must perform identification of the real needs of customers						
2.2.6 Must keep a service record for patients who need continuous tracking such as those who have chronic diseases. Records include, for instance, drug allergies, incidence and nature of adverse reactions to drugs and health products usage						
2.2.7 Must perform a double check on processes concerning customers to reduce errors						
2.2.8 Must establish and track key quality indicators such as customer satisfaction and number of patients with drug profiles						
2.2.9 Must continuously participate in pharmacy related continuing education and life-long learning						
Standard III: Good pharmacy practice 3.1 Drug procurement and storage 3.1.1 Must establish selection criteria for drugs and health products available in the pharmacy such as GMP certificated products						
3.1.2 Must have proper storage conditions to maintain the quality and safety of drugs						
3.1.3 Must have an effective system to manage drug expirations						

Standard of pharmacy	Rate the difficulty to comprehend standard					Suggestion for standard of pharmacy
	1	2	3	4	5	
3.1.4 Must have a controllable and auditable system for the dispensing of narcotic drugs, psychotropic substances and other specially controlled drugs						
3.1.5 Must maintain a reserve of first-aid and life saving drugs and products for emergency cases such as antidotes that conform to the local community's nee						
3.2 Good pharmacy practice 3.2.1 Must promote and encourage proper drug usage						
3.2.2 Must identify the true customers, their needs and expectations through interview and review of their drug profile (if any) before dispensing drugs						
3.2.3 On prescription appraisal: Must be able to analyze and determine if the prescription is suitable for the patient, Must consult with and have permission from the prescriber before making any change to a prescription						
3.2.4 On the dispensing process: Drugs must be dispensed by the pharmacist, Dispensed drugs must have a label indicating, Must explain to the customer the usage of the drug, Should not hand the drug to a child below 12 years of age without knowing the child's intention. If necessary, dispensing must follow a clearly and properly established protocol, No narcotic drug or psychotropic substance may be handed to a child below 12 years of age in any case						

Standard of pharmacy	Rate the difficulty to comprehend standard					Suggestion for standard of pharmacy
	1	2	3	4	5	
3.2.5 Must conduct and keep drug profiles of patients who need continuous tracking						
3.2.6 Must track drug usage results to improve usage and advisory in accordance with accepted methods and ethics						
3.2.7 Must have a clear and concrete referral protocol						
3.2.8 Must have criteria for drug counseling						
3.2.9 Must monitor the adverse effects of drugs and health products and report incidents to the concerned authorities when found						
3.2.10 Must cooperate with other health professionals for the most effective remedies						
Standard IV: Laws, regulations and ethics						
4.1 Must not operate while the license is suspended or withdrawn						
4.2 Must comply with laws and regulations including keeping records and documents required by law						
4.3 Must not possess unlicensed or illegal drugs.						
4.4 Must keep prescriptions and other related documents for at least 1 year at the pharmacy. Must also record the drugs dispensed under prescription						
4.5 Must respect patient confidentiality and have protection for patients' personal data						
4.6 Must not dispense prescribed drugs during the absence of the on-duty pharmacist						
4.7 Operators must behave professionally and not discredit pharmacy or other profession.						

Standard of pharmacy	Rate the difficulty to comprehend standard					Suggestion for standard of pharmacy
	1	2	3	4	5	
Standard V: Services and community participation						
5.1 Must provide the community with information and advice regarding poisonous substances and narcotic drugs with regard to the prevention, treatment and remedy of illnesses. Must also participate in campaigns against narcotics						
5.2 Must cooperate with authorities in reporting and giving information about illegal drugs and narcotics						
5.3 Must provide the community with information and advice regarding drugs and health that will benefit the community in illness prevention and health promotion						
5.4 Must help promote correct drug usage in the community						
5.5 Must participate in preventing problems related to improper drug usage in the community						
5.6 Must not produce or sell products that are harmful to health such as alcohol and cigarettes						

3.5 Opinions and recommendations for CPA program

Open statements were addressed for a free response

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Thank you for your opinions

Appendix B: Positive factors for enrollment in CPA program of non-accredited pharmacy

Positive factors for enrollment in CPA program	**Non-accredited pharmacy (Mean ± SD)**		
	Interest to enroll (n=18)	**Not interest to enroll (n=8)**	**Total (n=26)**
1. Realization and extension roles of pharmacy professionalism	4.2 ± 0.9	3.4 ± 1.4	3.9 ± 1.1
2. Pharmacy improvement	4.1 ± 1.3	3.1 ± 1.4	3.8 ± 1.4
3. Providing good pharmacy service to patients	4.1 ± 1.1	3.4 ± 1.4	3.9 ± 1.2
4. Providing good image of pharmacy to patients and other medical staffs	4.2 ± 0.8	3.3 ± 1.4	3.9 ± 1.07
5. Realization on important and benefit of CPA program	3.7 ± 1.1	2.6 ± 1.6	3.4 ± 1.3
6. Acceptable from patients and community	3.61 ± 1.0	3.0 ± 1.7	3.4 ± 1.3
7. Cooperation with the Pharmacy Council and Nakhonratchasima Provincial Public Health Office	3.1 ± 1.3	2.8 ± 1.7	2.9 ± 1.5
8. Source of pharmacy student training	2.6 ± 1.7	1.78 ± 1.9	2.4 ± 1.8
9. Business benefit	2.6 ± 1.3	1.0 ± 1.2	2.1 ± 1.4

Appendix C: Barriers for enrollment in CPA program of non-accredited pharmacy

Barriers for enrollment in CPA program	**Non-accredited pharmacy (Mean ± SD)**		
	Interest to enroll (n=18)	**Not interest to enroll (n=8)**	**Total (n=26)**
1. Difficulty of standard of pharmacy in practicality	3.4 ± 1.1	3.4 ± 1.8	3.4 ± 1.3
2. Lack of supporter from concerned organizations	3.3 ± 1.5	2.5 ± 2.2	3.0 ± 1.7
3. Cost for restoring and adjustment pharmacy according to standard of pharmacy	3.7 ± 1.4	2.6 ± 1.9	3.4 ± 1.6
4. Fee for applying in CPA program (3,000 baht)	3.3 ± 1.5	2.5 ± 2.2	3.0 ± 1.8
5. Non-assured in stable of CPA program	2.4 ± 1.6	2.9 ± 2.1	2.6 ± 1.75
6. CPA process	3.0 ± 1.0	2.5 ± 1.8	2.9 ± 1.3
7. No advantages from CPA program	2.2 ± 1.4	3.0 ± 2.1	2.5 ± 1.6
8. Denial (feeling to refuse in CPA enrollment)	2.3 ± 0.9	3.0 ± 1.9	2.5 ± 1.3
9. Irresponsibility (it is not my job to enroll in CPA program)	2.1 ± 1.1	2.4 ± 1.9	2.2 ± 1.4
10. Unawareness and unknowledgeable on CPA program	1.6 ± 1.2	1.6 ± 1.9	1.6 ± 1.4

Appendix D: Code of interviewee in in-depth interview

Number of interviewee	**Group of pharmacy (Accredited or non-accredited pharmacy)**
Interviewee 1	Accredited pharmacy
Interviewee 2	Accredited pharmacy
Interviewee 3	Accredited pharmacy
Interviewee 4	Accredited pharmacy
Interviewee 5	Accredited pharmacy
Interviewee 6	Accredited pharmacy
Interviewee 7	Accredited pharmacy
Interviewee 8	Non-accredited pharmacy
Interviewee 9	Non-accredited pharmacy
Interviewee 10	Non-accredited pharmacy
Interviewee 11	Non-accredited pharmacy
Interviewee 12	Non-accredited pharmacy
Interviewee 13	Non-accredited pharmacy
Interviewee 14	Non-accredited pharmacy
Interviewee 15	Non-accredited pharmacy
Interviewee 16	Non-accredited pharmacy
Interviewee 17	Non-accredited pharmacy

BIOGRAPHY

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ACADEMIC PUBLICATIONS

1. Rittirod T., Tattawasart A, Kumkainam K.1, Setsomboon W, Ruangsang A, Puntaluck P. NEW MODEL SEMI-AUTOMATIC WASHING MACHINE FOR SMALL VOLUME GLASS VIAL USED IN PHARMACEUTICAL ANALYSIS. MPS Pharmacy Scientific Conference 2002, Penang, Malaysia. 31 October – 2 November 2002.
2. T. Rittirod, A. Tattawasart, K. Kumkainam, W .Sessomboon, P. Puntaluck, J. Thongchai, A. Sombat and S. Sakolchai Efficacy of a Washing Machine for Small Volume Glass Vial used in Pharmaceutical Analysis, Indochina Conference on Pharmaceutical Sciences, May 20-23, 2003, Bangkok, THAILAND.

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