

CHAPTER 2

PROJECT DESCRIPTION

2.1 Rationale

There are many aspects when mentioning a word “quality”. In a point of view of professional workers, quality is a practice under the set standards. In a point of view of customers and users, quality is a meeting or exceeding of customer’s expectations. When adjusting the point of view of these two groups, it can be said that quality is a meeting of customer’s expectations bases on professional standards.

There are many hospital pharmaceutical works such as OPD service, IPD service, medication supplies management, production, and consumer protection. These seem to be very complicated but these can be divided into two main groups in accordance with customer groups. These are direct services and supporting services. The meaning of quality of pharmaceutical services is therefore different from that of supporting services. The service works should mainly respond to customer’s expectations such as convenience, service-minded, accuracy of medication, understanding of medication usage as well as accurate amount of medicine as per doctor’s prescriptions. These needs account as service need which patients require from

pharmaceutical service works which a majority of patients and their relative recognize and expect. In addition, there is also a technical need which a majority of patients do not understand. Technicians or professional workers will have to respond the technical need of the patients by concerning morals and code of conduct for example provision of care and protection or provision of help to the patients for accurate, appropriate, safe and effective medication. Therefore, quality of pharmaceutical services will have to have dimensions in both technical need and service need.

It can be seen that the quality improvement activity will start from evaluating or revising whether the on-going activity meets customer's expectations. The next step is the processes of improvement following by standards and maintenance of the standards. The final step is the continuous improvement which is completed from one area to another continually. For the pharmacy department, in this case, after completion of the first selected opportunity in term of service need as set. It can be expanded to assess quality of pharmaceutical services in term of technical need by studying the key performance indicators such as prescription error which is a professional role of the pharmacist to check the accuracy of prescriptions. If the project can be implemented continually and the personnel are ready to take part in the project, it will not be really difficult for the pharmacy department of Banprak Hospital to improve itself towards the age of pharmaceutical care where customers are the center and the quality of services meets customer's expectations and in accordance with professional standards.

2.2 Goals and Objectives

2.2.1 General Objective

- To improve quality of Out Patient Services in Pharmacy Department of Banprak Hospital systematically.

2.2.2 Specific Objectives

1. To identify the most important problem resulting from assessment of the 6 key performance indicators.
2. To find out proper solution for improve the working system of the first selected area using Continuous Quality Improvement (CQI) activity.
3. To evaluate and comparison of result on pre and post implementation of CQI activities

2.3 Study Design, Methods, Approaches, and/or Techniques

The study was aimed to improve quality of OPD dispensing services. There were 2 phases of implementation as follows:

2.3.1 Phase 1 Assessment of the current performance of the OPD dispensing services.

This was measured from the 6 key performance indicators that reflect service need of the patients as follows.

1. **Waiting time** accounted as minutes. Waiting time was obtained by surveying and timing every OPD prescription that was delivered to the dispensing room between 09:30 – 11:30 am on Monday, Tuesday, Wednesday and Thursday. There was special clinic for diabetes and high blood pressure patients on these days. It was the time that there was the highest number of the patients. Digital watch was used to record the time starting from the time when patient handed in the prescription to the time when patient received the medicine. Time of each activity was recorded continually until the final activity completed. The recorded time of each activity was then taken to subtract in order to summarize the time of each activity (cumulative time) as follows.

A1 was the time when patient handed in the prescription at prescription's present point. A pharmaceutical staff who received the prescription recorded the time. It accounted as the starting time.

A2 was the time when pharmacist or pharmaceutical staff who was in charge of medicine dispensing called patient's name to collect the medicine. A pharmacist or a pharmaceutical staff who dispensed the medicine then recorded the time.

A3 was the time when a pharmacist or a pharmaceutical staff finished advice provision. A medicine dispenser was a person who recorded the time into the next provided box.

A1-A2 was the waiting time for medicine collecting of the patient.

A2-A3 was the time of medication instruction advising by the pharmacist.

This information collection was conducted within 1-month duration. The recorded information was taken to calculate for mean of waiting time and advising time in minutes. The standard set by the Committee of Health Care Management Group 10, Pharmacy Department that the waiting time should not exceed 20 minutes.

2. Customer Satisfaction was assessed from surveying the patients of different groups using systematic sampling. The selection of sample group was as follow:

- Provided number to each sample population starting from number 1 to N, which was 960 people (number of patients per day in the morning period was 60 people, recorded the information from Monday-Thursday continuously within 4 weeks duration or 16 days, as on Friday the number of patients was less and there was no special clinic).
- Calculated the interval between the continuous samples which was equal to 9 (K value) as 100 people were required to be interviewed (n)→
- Selected the sample units to be interviewed that were sample 9, $9+K$, $9+2K$... $9+(n-1)K$.

Nurse or pharmacy student was the interviewer who interviewed the patients using questionnaires, which comprised of 4 sections. Section 1 was general information of the patients. Section 2 was opinion evaluation questionnaire to the services of community pharmacy department, which set as 'agree', 'not sure' and 'disagree'. Section 3 was questionnaire to determine satisfaction level which comprised of 5 categories 'highly not satisfy' to 'highly satisfy'. Section 4 was questionnaire on perception and understanding of medication instructions. The interview was conducted to all 100 samples. The collected information was calculated for a percentage of each level.

3. **Percentage of perception and understanding of medication instructions** was assessed by the uses of samples and interview method as same as the study of satisfaction level. The questionnaire was the same as of the Section 4 which was divided into 3 levels including Level 1 No advice received Level 2 Received advice but did not understand and Level 3 Received advice and well understood. The collected information was summarized as percentage of each level.
4. **Incident of shortage of medication supplies** was accounted as times. The incident was recorded from a record form medication supplies shortage. A pharmacy staff or a pharmacist who found the incident was a person who recorded the incident. The collecting time was 1 month.

5. **Percentage of pre dispensing error** (a number of errors found in medication labels or printed prescriptions divided by a number of prescriptions and multiplied by 100) was recorded every time when error occurred. A person who recorded the incident was a person who in charge of the particular processes. For example, in case of medicine mislabeling, a data recorder could be pharmacy staff who adhered the labels or a pharmacist who found the error. A record of predisensing error can be made in a form which adhered on the wall for an easy-to-see purpose. The collecting time was 1 month.
6. **Incident of dispensing error** was accounted as items. It was obtained from the record of incident that patients, doctors, nurses and other staff reported to the dispensing room. A person who was informed would inform the pharmacist to investigate the causes and solve the problems immediately. In addition, pharmacist was a person who recorded the incident of dispensing error themselves by recoding every reported case within 1-month duration.

2.3.2 Definition of terms

1. Waiting time refers to time in minutes which patient waited from the handing in of the prescription to dispensing room until the patient was called on his/her name to collect the medicine.
2. Customer Satisfaction refers to a feeling or attitude towards the service of community pharmacy department. The level of

satisfaction was divided into 5 levels started from highly not satisfy to highly satisfy.

3. Perception and understanding of medication instructions refers to receiving of advice or instructions about medication handling and medication instructions before collecting the medicine and understand the instructions and be able to follow the instructions correctly.
4. Incident of shortage of medication supplies refers to a number of shortages of medication supplies per doctor's prescription. This was not counted with the medicine that was not in the medicine lists of the hospital.
5. Pre dispensing error refers to every single error that occurred in the step of medication labeling and medication distribution including patient's name, dosage, medication instructions, number of tablets and wrong type of medicine. It was calculated in percentage (number of errors found in labeling or prescriptions divided by number of prescriptions and multiplied by 100).
6. Incident of dispensing errors refers to the incident that dispenser could not notice in the predispensing process. This resulted in the error of dispensing to the patient. This error included wrong drug, wrong dose, wrong time, wrong patient, wrong method and wrong number of tablets and so on.

After current situation was assessed, priority ranking of improvement opportunities was conducted using a helping tool such as summary of discussion, multivoting, and attribute rating map.

2.3.3 Phase 2 selection of the opportunity for improving with CQI: Continuous Quality Improvement activity. The processes of CQI comprised of:

- **Define the system** by study all the relevant processes and draw the flow chart to show the systematical working processes and points concerning different decision making's conditions.
- **Analyze causes** was an attempt to search for the cause of problems using intro-question "why". Cause and effect diagram was used in accompany with method of brainstorming to find out causes.
- **Analyze alternatives:** This is an alternative analysis for the identified problems using brainstorming method.
- **Try out improvement alternative:** This is a step where the determined alternatives was classified and arranged as an action plan for actual practice.
- **Study the result** is a study to compare the first selected key performance indicator whether there is any change and how.
- **Standardize improvement:** If the outcome was satisfactory, it can be accredited as standard of practices. When the standards are met, the outcomes will be always as the study until the system requires further improvement.

2.4 Conceptual Framework

The conceptual framework shows that when the quality level is unknown, it is difficult to improve systematically because it is unidentifiable that the on-going improvement will be any beneficial. The analysis of current situation using key performance indicators will enable us to know our quality level. This study employed CQI to improve OPD dispensing services with an aim to increase or improve quality of the pharmacy department.

Figure 2.1: Conceptual Framework

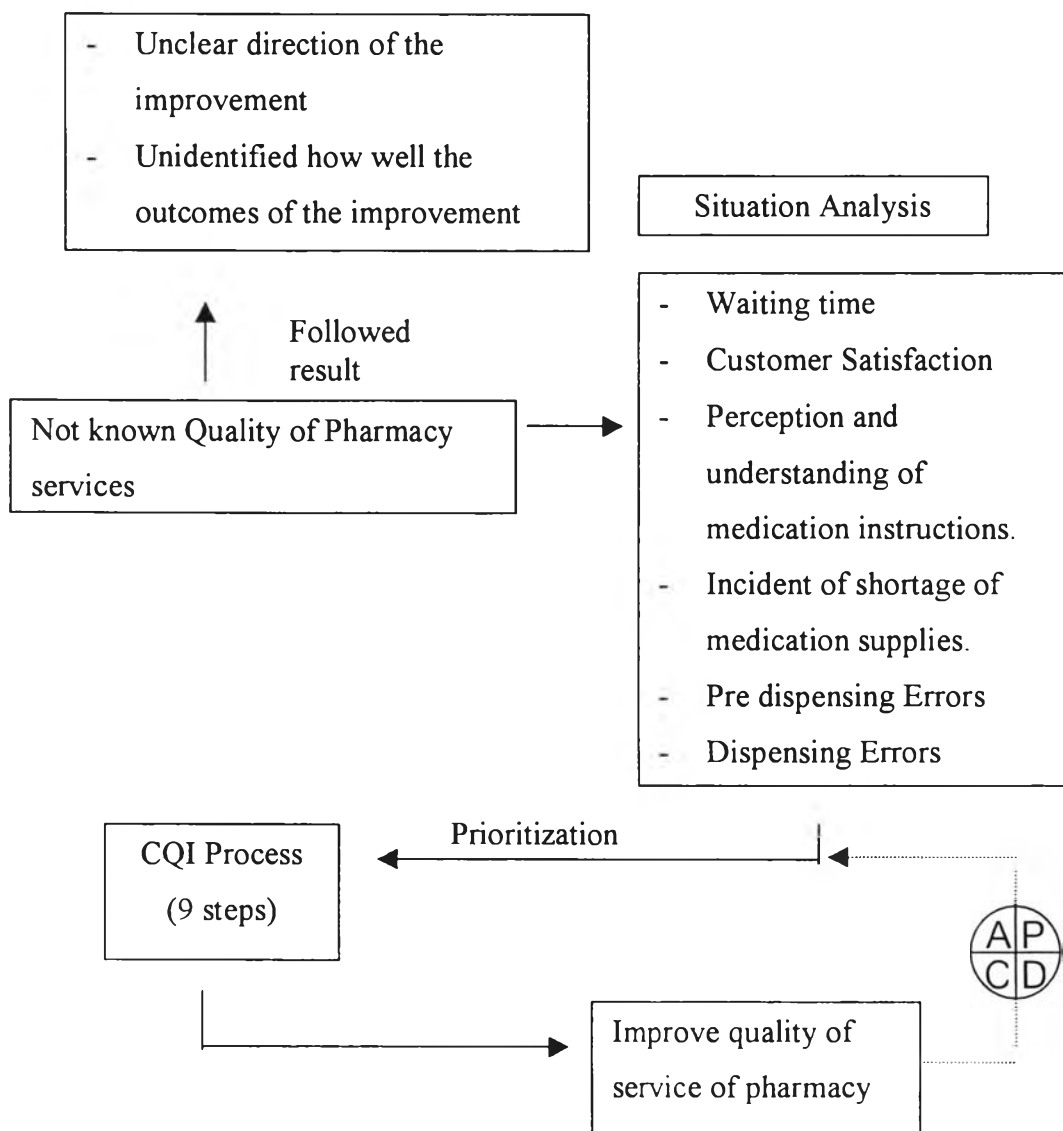


Figure 2.2: Main processes of OPD dispensing service description of conceptual framework

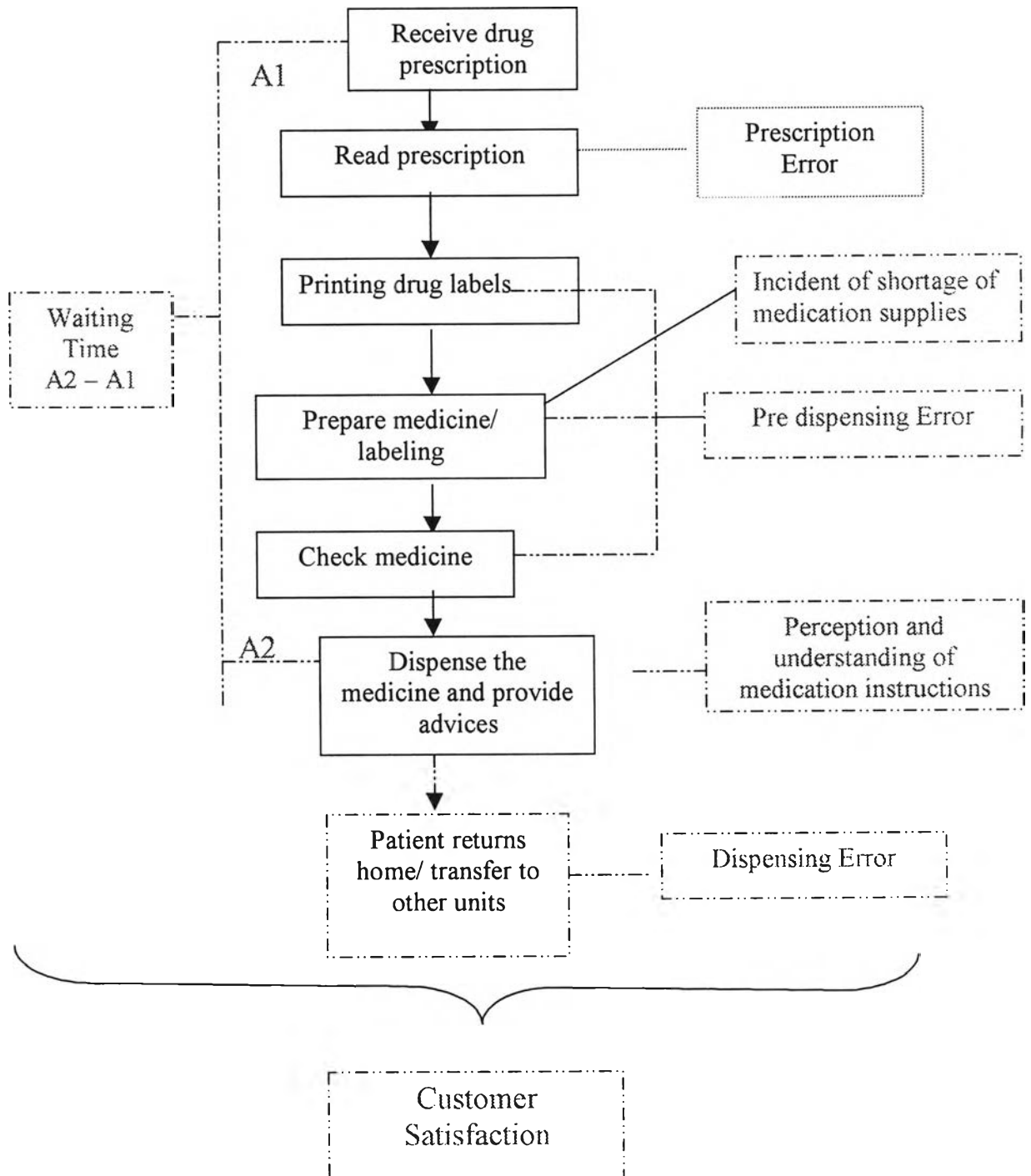
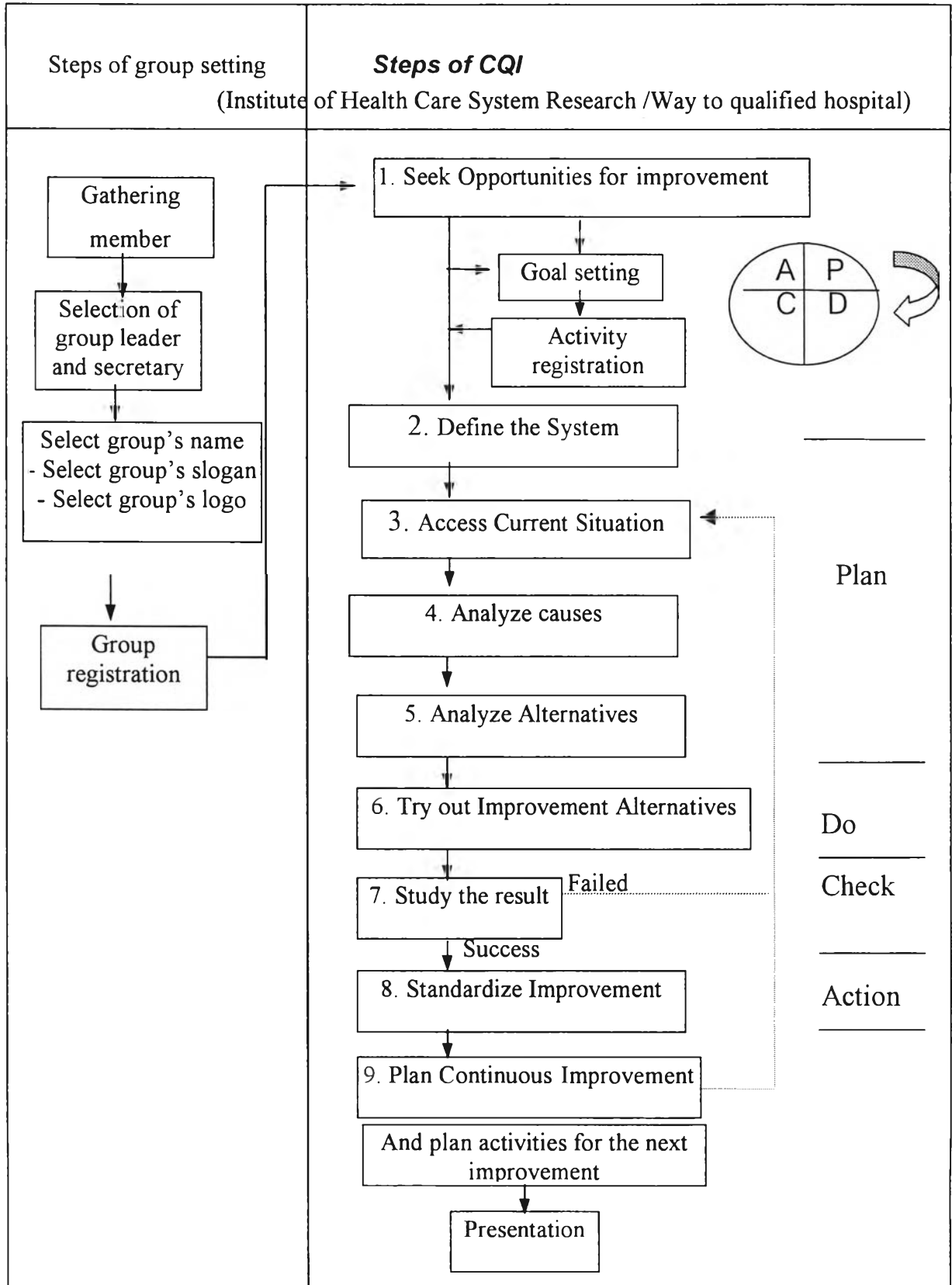


Figure 2.3: Continuous Quality Improvement (CQI) activities



Expected Outcomes

1. Project outcomes will show quality of the Pharmacy Department of Banprak Hospital in term of quality that responds to service need of patients towards OPD dispensing service according to 6 key performance indicators as previously mentioned.
2. Project outcomes will show how the use of Continuous Quality Improvement (CQI) activity helps improving the quality of the system.
3. Project outcomes will stimulate a continuous improvement in the community pharmacy department because it has learnt quality assessment systematically.

2.5 Evaluation Plan

1. Evaluate questionnaire and information collection forms whether they are appropriate and capable to collect the complete information.
2. Evaluate activity plan whether it will be applicable.
3. Evaluate the objectives of the project whether they will be successful.
4. Evaluate problems or obstacles that will obstruct the implementation of the project.

2.6 Potential Problems, Conflicts and Possible Means for Resolution.

Personnel:

- Transfer of personnel was on April which the project was still in the implementation phase. This resulted in uncertain results and caused problems.
- The occurrence of prejudices of personnel such as when once knew that it was the time of project assessment; personnel would be extra active and eager to work. This resulted in uncertain results.