

**CHAPTER V**  
**PRESENTATION**

The proposal was introduced as an action research study to find out the common health problems and to assess laboratory test needs in order to support diagnosis and treatment services in Baaray-Santuk Referral Hospital and also to determine the deficiencies and shortcomings relating to laboratory services in Referral Hospital.

The presentation explains the poor quality of laboratory services support in the Referral Hospital and how to improve laboratory services before proceeding with the proposal on action research study on improvement of laboratory services in the Referral Hospital.

In the presentation the overhead transparencies were used as shown below to improve the clarity of the presentation.

## ISSUE

### **Poor Quality of Laboratory Services Support in Barray-Santuk Referral Hospital**

#### **What is a Referral Hospital?**

- |   |  |
|---|--|
| <ul style="list-style-type: none"> <li>❶ Referred cases</li> <li>❷ Medical &amp; surgical emergencies           <ul style="list-style-type: none"> <li>▪ Amputation</li> <li>▪ Strangulated</li> <li>▪ Appendicitis</li> <li>▪ Transfusion</li> <li>▪ Cardiovascular resuscitation</li> </ul> </li> <li>❸ Complicated deliveries           <ul style="list-style-type: none"> <li>▪ Extra-uterine pregnancy</li> <li>▪ Obstructed labor</li> <li>▪ Hemorrhage</li> <li>▪ Retained placenta</li> </ul> </li> </ul> | <ul style="list-style-type: none"> <li>❹ Simple surgery cases:           <ul style="list-style-type: none"> <li>▪ Hernia</li> <li>▪ Cataract</li> </ul> </li> <li>❺ Complicated TB cases</li> <li>❻ Hospitalization</li> <li>❼ <b>Laboratory diagnosis</b></li> <li>❽ Radiological &amp; ultrasound diagnosis</li> <li>❾ Rehabilitation</li> <li>❿ 24 hours ward duty staffed by skilled personal</li> </ul> |
|---|--|
- (MoH, 1997)

## **Definition of Laboratory Services**

### **☛ PH Laboratory Services:**

Laboratories for examination of specimens in PH programs

### **☛ Clinical Laboratory Services:**

Laboratories for services to individual patients receiving medical care

(Roemer, 1993)

## **Quality of Laboratory Services Support**

- “Quality” is the totality of features & characteristics of a product or service that influence its ability to satisfy stated or implied needs.  
(Alexadria, 1995)
- The availability of efficient and reliable laboratory services is essential for diagnosis & treatment. The use of laboratory services to test blood to be used for transfusion is specially important, in view of the prevalence of hepatitis and HIV/AIDS.  
(Tanimo, E., & Webster, E.G., 1996)
- The availability of laboratory tests that can response to needs of clinicians with QA. Laboratory services should be able to provide safe blood product for transfusions.

## **Laboratory Quality Assurance**

- QA is concerned with sampling, specification, and testing as well as with organization and release procedures that ensure that the necessary and relevant steps have been taken to ensure satisfactory quality”.
- Quality Assurance (QA)= IQC + EQA

(WHO, 1998)

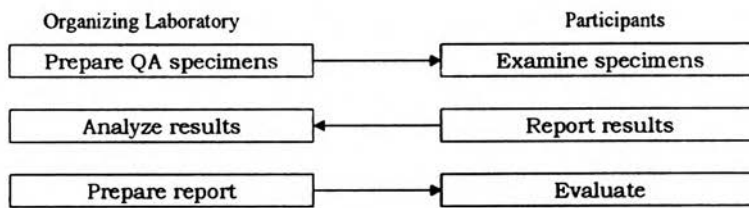
## **Internal Quality Control**

- ☞ IQC refers to the set of procedures employed by laboratory staff for continuous and immediate monitoring of laboratory work in order to decide whether their test results are reliable enough to be released.
- ☞ The process involves a work culture in which all the possible variable that can influence the results have been checked against standards or their appropriateness has been verified.

(WHO, 1996)

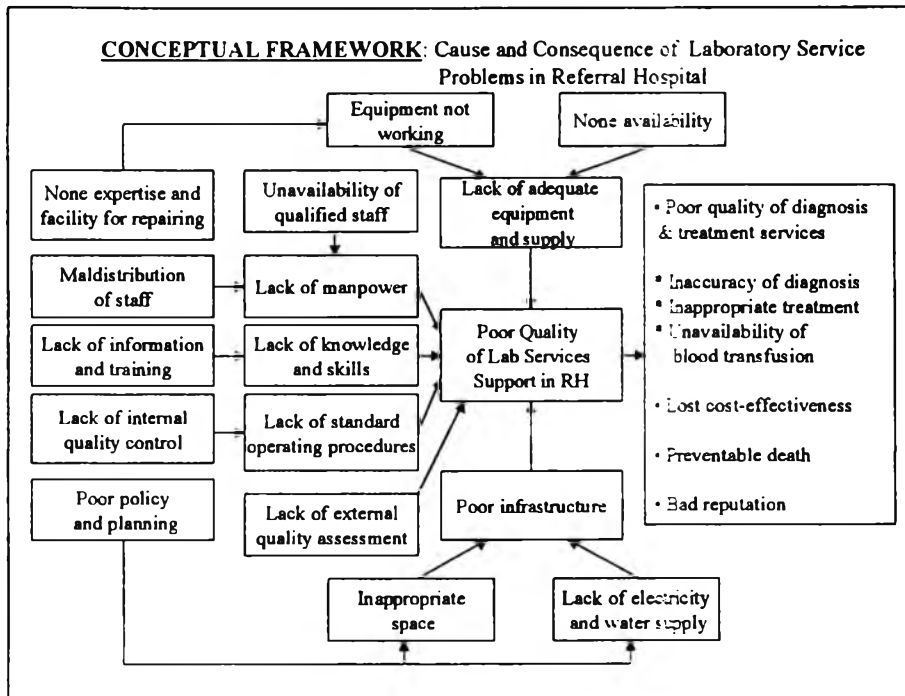
## External Quality Assessment

“EQA is a check on the performance of laboratories. This mechanism involves a periodic and retrospective evaluation of a laboratory, which undertaken by an independent and external laboratory by incorporating proficiency panels as a means of evaluation”.



## Present Status in the Referral Hospital

- ✍ Laboratory tests
- ✍ Malaria
- ✍ Stool examination
- ✍ Blood cell count
- ✍ Mycobacterium tuberculosis (PHD, 1997)
  
- ✍ Laboratory services were limited and only microscope is mainly available in hospitals (MoH, 1995)
  
- ✍ There are no IQC & EQA
- ✍ Lack of laboratory standards (MoH, 1999)



## How Laboratory Services in Baaray-Santuk Referral Hospital Can Be Improved?

- ☞ The upgrade of laboratory equipment/facilities
- ☞ Laboratory training program
- ☞ Action research study

### **Laboratory Technical Committee**

- ☒ The group of experienced people in medical laboratory services
- ☒ Decision making on the selection of laboratory equipment, development of laboratory training curriculum, and laboratory training program
- ☒ The selection of committee members will be based on their experience and qualification

### **Some consideration should be taken into account by committee members**

- ☒ The availability of spare parts
- ☒ Lab staff should be trained by provider in the basic care and maintenance of equipment.
- ☒ Due to unavailability of electricity at all times, some equipment should be chosen which can operate using 12 volt power sources.
- ☒ Second hand equipment can cause a problem, unless they are supplied with an original service manual.
- ☒ Recipients of equipment should ask donors to provide manuals, spare parts, training in the use of equipment they donate. Without this, correct use and repair are almost impossible.

### **Laboratory Training Program**

- ☛ Practical course
  - ☛ To cover all the needed tests
  - ☛ Quality control
  - ☛ The basic care and maintenance of equipment
- ☛ Training trainers
  - ☛ Laboratory technical committee
  - ☛ Develop standard operating procedures
- ☛ Assessment
  - Pre and post training

### **PROPOSAL:**

**ACTION RESEARCH STUDY ON  
IMPROVEMENT OF LABORATORY SERVICES  
IN BAARAY-SANTUK REFERRAL HOSPITAL,  
BAARAY-SANTUK OPERATIONAL DISTRICT,  
CAMBODIA**



### **The Rationale for the Proposed Study**

- ❖ Action-based research study
- ❖ Laboratory equipment/facilities have not been upgraded yet after 1995
- ❖ “Qualified physicians are seriously hampered by the lack of support technology for better diagnosis and effective therapeutics”. (Sideman S, & D. BenDak J, 1997)
- ❖ “The cost-effectiveness: Correctly and timely diagnosis and treatment are of utmost importance to health services budgets as well as to the economic situation of individuals and families”. (Martha A.H., 1998)
- ❖ “The quality of laboratory services will lead to improve diagnosis and treatment services. (WHO, 1996)

### **The Purposed of the Proposed Study**

- (i).** To improve laboratory services in order to support diagnosis and treatment services according to the common health problems in Baaray-Santuk Referral Hospital.
- (ii).** To formulate recommendations so as to develop “ Guideline for upgrading laboratory services in Referral Hospitals”

### **Research Questions?**

- (i).** What are the common health problems in Baaray-Santuk Referral Hospital?
  
- (ii).** What laboratory tests are needed to support diagnosis & treatment services according to the common health problems in Baaray-Santuk Referral Hospital?
  
- (iii).** What laboratory tests are currently provided to support diagnosis and treatment services in Baaray-Santuk Referral Hospital?
  
- (iv).** How laboratory services are currently provided to support diagnosis and treatment services in Baaray-Santuk Referral Hospital?

### **Research Questions? (continued)**

- (v).** What is the gap between the existing laboratory tests and needed tests in Baaray-Santuk Referral Hospital?
  
- (vi).** What additional test needs should be provided to support diagnosis and treatment services according to the common health problems in Baaray-Santuk Referral Hospital and availability of human resources in the operational district level?

## **Objectives of the Proposed Study**

- SHOT TERM OBJECTIVES
- MEDIUM TERM OBJECTIVES
- LONG TERM OBJECTIVES

### **Short Term Objectives**

**(i).** To find out common health problems and to assess laboratory tests required to upgrade the quality of care for individual patients in order to reorganize laboratory services in Baaray-Santuk Referral Hospital.

**(ii).** To determine the deficiencies and shortcomings in the section of laboratory services in order to know baseline information and to provide corrective measures to upgrade laboratory services in Baaray-Santuk Referral Hospital

### **Medium Term Objectives**

**(i).** To have guideline for upgrading laboratory equipment/facilities in the section of laboratory services in Baaray-Santuk Referral Hospital.

**(ii).** To develop laboratory training curriculum

**(iii).** To upgrade knowledge and skills of laboratory staff through laboratory training program.

**(iv).** To introduce internal quality control

### **Long Term Objectives**

- (i).** To introduce external quality assessment
  
- (ii).** To improve laboratory services in order to support diagnosis and treatment services in Baaray-Santuk Referral Hospital.
  
- (ii).** To provide a rational and recommendations in order to develop “Guideline for Upgrading Laboratory Services in Referral Hospitals”

### **Research Methodology**

- ☛ Sample population: purposive sampling technique
  
- ☛ Sample size: 5 MD, 9 MA, & 2 lab. technicians
  
- ☛ Research technique
  - ☛ Focus group discussion
  - ☛ Personal interview
  - ☛ Observation
  - ☛ In depth interview
  - ☛ Secondary data collection
  
- ☛ Data analysis

### **Budget Estimation**

Description	Amount
	(in USD)
1. Introduce action research with RHC	70.00
2. Data collection activities, data analysis and report writing	980.00
4. The development of training curriculum	1800.00
5. Laboratory training program	1400.00
6. Evaluation	225.00
7. Miscellaneous 10%	445.00
<b>8. Grand total</b>	<b>4920.00</b>

### **Evaluation**

- ☛ External quality assessment
  - Sample of specimens
  - Observation and interview
  
- ☛ Impact evaluation
  - Focus group discussion
  - Self- administered questionnaire

### **Limitation of the Study**

- ❖ This study does not cover all factors affecting the poor quality of laboratory service support in Baaray-Santuk Referral Hospital.
- ❖ The sample size of the proposed study is small and the findings can not be generalized. We need further study before the development of guideline
- ❖ Due to limited time and resource, the sample size used in the pilot study is small to present the population of the proposed study. The instruments for data collection need to be further tested.

### **Data Exercise**

- Goals
  - ❖ To test the data collection instruments
  - ❖ To improve my skills on data collection techniques
- Study Site: Phachi Hospital, Phachi District, Ayutthaya Province
- Sample Size: 3 MD and 2 Lab. officers
- Tool Used: Personal interview questionnaire, in depth interview guideline, & observation