

APPENDICES

APPENDIX A

Observation Guideline for Observation Study in

Laboratory Services of the Referral Hospital

- I. Equipment and supplies are available in the Referral Hospital.
- II. Laboratory tests are available in the Referral Hospital.
- III. Standard operating procedures manual (SOPM) or any instructions and procedures are available in the section of laboratory services in the Referral Hospital
- IV. Laboratory staff performance: the responsibilities of laboratory staff and morphology of reporting laboratory test results.
- V. Laboratory infrastructure: space, cleanness, electricity, and water supply

APPENDIX B**Interview Guideline for In Depth Interviews with Laboratory Staff**

- I. What kind of equipment and supplies are available in the section of laboratory services of the Referral Hospital? (Please describe)
- II. What laboratory tests can be provided by the section of laboratory services in the Referral Hospital? (Please describe)
- III. Do you have standard operating procedures manual (SOPM) or any instructions and procedures to follow in order to perform laboratory tests in the Referral Hospital?
 - a. If not, Why? (please describe)
 - b. If yes, do you use it to follow in order to perform laboratory tests?
(How often)
 - c. Why do you use it or not use it? (please describe)
- IV. What problems do you see in the current laboratory services of Referral Hospital? (Please describe)
- V. How laboratory services in Baaray-Santuk Referral Hospital can be improved? (Please explain)

APPENDIX C**Focus Group Discussion with Medical Doctors and****Medical Assistants in the Referral Hospital**

Date of Conducting Focus Group Discussion:

Time Started: Time Ended:

Moderator Name: _____ Recorder Name: _____

Participant List:

No.	Name	Age	Sex	Function
1.				
2.				
3.				
4.				
5.				
6.				
7.				

I. Guideline for conducting Focus Group Discussion

There are two people will conduct the focus group discussion with medical doctors and medical assistants working in the Referral Hospital. One is moderator and another one is researcher and responsible for taking notes.

Task of Moderator:

- ❖ Guide the group using the question guideline
- ❖ Politely stop people who talk too much and encourage those who have not talk
- ❖ Patiently bring the discussion back if the group has gone out of subject

Task of Note Taker:

- ❖ Observation of the Group Activities
- ❖ Taking notes

Instructions:

- ❖ Greeting to the group
- ❖ Introduce to each other between moderator, researcher, and participants.
- ❖ Explain the purpose of focus group discussion
- ❖ At the end of focus group discussion, we have to summary the results of discussion to participants and give thanks for them.

II. Question guidelines for focus group discussion:

1. Can you describe what are the health problems you often face in out patient consultation and in-patient services of the Referral Hospital?

2. How do you provide diagnosis and treatment for individual patients? (please describe)

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3. Do you know how important laboratory services are in the Referral Hospital? (please explain)

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4. What problems do you see in the current laboratory services in order to support the quality of care for individual patients in the Referral Hospital? (please describe and then moderator continues to ask about laboratory test needs for each of the common health problems in question No.1)

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5. In some emergency cases that patients need safe blood products for transfusions in the Referral Hospital what did you do? (please describe)

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6. Based on your experiences as clinicians, what additional laboratory tests should be provided in order to support the quality of care for individual patients in the Referral Hospital?

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APPENDIX D**Interview Questionnaire on Laboratory Services****With Doctors and Medical Assistants****(A) General questions:**

1. Identification Number(ID)
2. Sex: Male (M) Female (F)
3. Age (AGE) year(s)
4. Position: Doctor (MD) Medical Assistant (MA)
5. Work experience (WE) year(s)

(B) Information about the Health Problems:

1. What are the five common health problems of out patient consultation, which you often face in your hospital?
- I.
- II.
- III.
- IV.
- V.
2. What are the five common health problems in in-patient department services that you often face in your hospital?
- I.
- II.
- III.
- IV.
- V.

(C) Information about the Laboratory Test Needs:

Based on information about common health problems in out patient consultation and in-patient services, interviewer continue to ask needed laboratory tests for each common health problem and circle only one test when clinician repeat the same test.

1. Heamatology

- a. White blood cell count
- b. Red blood cell count
- c. Platelets count
- d. Differential leukocytes
- e. Hematocrite
- f. Hemoglobin
- g. Bleeding time
- h. Coagulation time
- i. Other (Please specify).....

2. Serology and blood transfusion

- a. HIV
- b. VDRL
- c. TPHA
- d. HBs Ag
- e. Widal test

- f. ABO blood group
- g. Rhesus Factors (RhD)
- h. Other (Please specify).....

3. Biochemistry

- a. Glucose
- b. Cholesterol
- c. Triglyceride
- d. Uric acid
- e. Blood urea nitrogen
- f. Creatinine
- g. Total protein
- h. Albumin
- i. Direct bilirubin
- j. Total bilirubin
- k. Alkaline phosphatase
- l. SGOT
- m. SGPT
- n. Other (Please specify).....

4. Microbiology and parasitology

- a. Stool examination
- b. Urine analysis
- c. Gram stain
- d. Culture
- e. Antibiotic sensitivity
- f. Acid fast bacilli
- g. Fern test
- h. Other (Please specify).....

(D) Laboratory user satisfaction survey:

Please circle the number that best represents your ratings and answer the following questions using your own perceptions and experiences.

- I. Existing tests
 - 1. Very satisfied
 - 2. Satisfied
 - 3. Fair
 - 4. Dissatisfied
 - 5. Very dissatisfied

- II. How well tests were taken
 - 1. Very satisfied
 - 2. Satisfied
 - 3. Fair
 - 4. Dissatisfied
 - 5. Very dissatisfied

III. The report of results

- 1. Very satisfied
- 2. Satisfied
- 3. Fair
- 4. Dissatisfied
- 5. Very dissatisfied

IV. Knowledge and skills of laboratory staff

- 1. Very satisfied
- 2. Satisfied
- 3. Fair
- 4. Dissatisfied
- 5. Very dissatisfied

Please give comments and suggestions in order to improve the quality of laboratory services in the hospital:

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APPENDIX E**Suggested List of Laboratory Tests at Intermediate Level (WHO, 1994)****Bacterial Infections****1. Antigen Detection**

- Throat swab: Group A streptococci
- Cerebrospinal fluid:
 - Meningitis pathogens (Pneumococcus, meningococcus, H. influenzae, Group B streptococci).
 - Mycobacterium spp.
- Vaginal swab: Group B streptococci
- Exudate/High vaginal swab: Gonococci
- Stool: Diarrhea
 - Vibrio cholerae
 - Clostridium difficile
 - Salmonellae
- Blood: Enteric fevers
 - Salmonellae
- Sputum: Mycobacterium tuberculosis

2. Antibody Detection

- Typhoid
- Syphilis (reaginic)
- Rheumatic fever

- Antistreptolysin-O
- C-reactive protein
- Leprosy
- Bordetella pertussis (for vaccine monitoring)
- Tetanus (for vaccine monitoring)
- Diphtheria (for vaccine monitoring)

Mycotic Infection

Antigen Detection:

- Cryptococcus
- Candida
- Aspergillosis

Parasitic Infections

1. Antigen Detection

- Amoebiasis
- Cryptosporidium
- Giardia
- Malaria

2. Antibody Detection

- Amoebiasis
- Toxoplasmosis
- Leishmania
- Cysticercosis

- Trichinella

Viral Infections

1. Antigen Detection

- Hepatitis B surface antigen
- Rotavirus
- Influenza
- Respiratory syncytial virus
- Herpes simplex

2. Antibody Detection

- Human immunodeficiency virus
- Rubella
- Cytomegalovirus
- Varicella-zoster
- Measles (for vaccine monitoring)
- Dengue
- Rabies (for vaccine monitoring)

Clinical Pathology/Haematology

- Hemoglobin
- Sickle cell trait
- C-reactive protein
- Pregnancy
- Rheumatoid factor

- Coagulation profile
- Sperm examination

Clinical Chemistry

1. Urine:

- Glucose
- Protein
- Bilirubin

2. Blood:

- Protein
- Glucose
- Bilirubin
- Creatinine
- Alkaline phosphatase
- Cholesterol

APPENDIX F**GLOSSARY OF SPECIFIC TERM**

GTZ

Germany Technical Cooperation

Laboratory Standard

Document, established by consensus and approved by a recognized (or certified) body, that provides rules, guidelines or characteristics for activities and their results for common and repeated use, aimed at the achievement of the optimum degree of order in a given context.

Minimum Package Activities (MPA)

The activities have to be provided by Health Center defined by the Ministry of Health after implementing health care system reform in 1995.

(i). Delivery of services

- Primary curative consultation for treating the most common health problems: malaria, sexually transmitted and diarrhea diseases, etc.
- Emergency care and simple surgery
- Chronic diseases: tuberculosis, leprosy
- Consultation for healthy infants aged 0 to 4
 - * Vaccination
 - * Management of malnutrition
 - * Prevention of vitamin A deficiency
- Care for pregnant women
 - * Antenatal and postnatal care
 - * Anti-tetanus vaccination
 - * Prevention of anemia
 - * Deliveries and referral of complicated cases to second level
- Birth spacing
- Refer patients to the second level for diagnosis, or complex management reasons.
- Outreach activities

(ii). Management and training activities

- Gathering information in the catchment area
- Daily recording of data and updating and inventory reports
- Management of medical supplies and consumable items
- Support to community health workers
- Meeting in the district
- Maintenance of health center infrastructure and equipment

- **Conduct and participate in management committee meeting**

Primary Laboratory Technician

Laboratory staff who has completed the study on medical laboratory for three years in National Medical Care School.

Secondary Laboratory Technician

Laboratory staff who has completed the study on medical laboratory for two years in National Medical Care School.

CURRICULUM VITAE

Name: Chap Seak Chhay

Nationality: Cambodian

Date of Birth: 07 February, 1968

Education:

1994 Diploma of Medical Doctor

The Faculty of Medicine, Phnom Penh

Cambodia

1996 Postgraduate Diploma in Community Nutrition

SEAMEO-TROPMED/GTZ/NIN, Hanoi, Viet Nam

Area of Interest:

Health Care System Development

Work Experience

1994-1996 Staff of National Reference Laboratory

National Center for Hygiene and Epidemiology

Ministry of Health, Cambodia

1996 till Present:

Staff of Health Status and Disease Control Study Unit

National Institute of Public Health

Ministry of Health, Cambodia