SEATO

MEDICAL RESEARCH PROJECT LABORATORY

DEDICATION

BY

HIS EXCELLENCY — THE PRIME MINISTER

FIELD MARSHAL THANOM KITTIKACHORN

MEDICAL RESEARCH PROGRAM

SEPTEMBER 8, 1964

BANGKOK

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HISTORY: At the 6th Council Meeting of Ministers in 1960 at Washington, D.C., it was proposed that the SEATO Cholera Research Laboratory in Thailand be converted into a SEATO General Medical Research Project and encourage other Member Governments to participate in it. The Thai and U.S. Components of the SEATO Medical Research Laboratory were established by exchange of diplomatic notes between the Royal Thai and United States Governments on 23 December 1960.

MISSION: The mission is to carry out medical research and research training in cooperation with Thailand and other SEATO Nations for the benefit of all.

Currently there are 53 medical research studies under investigation in the following general fields: Bacteriology & Immunology; Medical Entomology; Medical Zoology & Parasitology; Veterinary; Medicine; Pathology; Virology; Special Projects to include Thai Hemorrhagic Fever, Amoebiasis, Scrub Typhus and Malaria.

Director General:

Major General Pung Phintuyothin, MC, RTA

Thai Component:

Director – Major General Pung Phintuyothin, MC, RTA
Deputy Director – Captain Samrit Jatinandana, MC, RTN

U.S. Component:

Director – Colonel James L. Hansen, MC, USA

กำหนดการพิธี

๐๙.๐๐ พระสงฆ์ ๙ รูป เจริญพระพุทธมนต์

๐๙.๔๐ พณฯ นายกรัฐมนตรี ประธานในพิธีมาถึงพิธีมณฑล

๐๙.๔๕ เสธ. ทหาร รายงาน

๐๙.๕๐ ประธานในพิธีกล่าวตอบ

๑๐.๐๐ ประธานในพิธีเปิดแพรคลุมป้าย

พระสงฆ์ ๙ รูป สวดชัยมงคลคาถา

ขยแล้วถวายไทยธรรม พระสงฆ์อนุโมทนา

๑๐.๑๕ เสร็จพิธี

นำชมตึก และชมกิจการ หน่วยวิจัยทางแพทย์

จัดเลี้ยงน้ำชาที่บริเวณห้อง ระดับ ๑ ยนตึกพยาธิวิทยา ชั้น ๓

Program for the Ceremony

0900 Hours — A chapter of nine monks starts chanting prayers.

0940 Hours — H.E. the Prime Minister arrives and presides over the ceremony

0945 Hours — The Chief of Staff, Supreme Command, reports to the Prime Minister

0950 Hours — H.E. The Prime Minister replies

1000 Hours
- H.E. The Prime Minister officially unveils the SMRL Building
- A chapter of nine monks chants a stanza of Victory
- Proper offerings are present to the monks
- The monks express approval

1015 Hours — The end of the ceremony

Tour of the Building and of the laboratories

Morning tea (Conference Room, Royal Thai Army Institute of Pathology Building 3rd floor.)

กำหนดการพิธี

๐๘๐๐ พระสงฆ์ ๙ รูป เจริญพระพุทธมนต์

๐๘๔๐ พณฯ นายกรัฐมนตรี ประธานในพิธีมาถึงพิธีมณฑล

๐๘๔๕ เสธ. ทหาร รายงาน

๐๘๕๐ ประธานในพิธีกล่าวทอย

๐๙๐๐ ประธานในพิธีเปิดแพรคลุมป้าย

พระสงฆ์ ๙ รูป สวดชัยมงคลคาถา

จบแล้วถวายไทยธรรม พระสงฆ์อนุโมทนา

๐๙๑๕ เสร็จพิธี

นำชมตึก และชมกิจการของหน่วยวิจัยทางแพทย์

จัดเลี้ยงน้ำชาที่บริเวณห้องประชุม ยนตึกพยาธิวิทยา ชั้น ๓

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—The monks express approval

0915 Hours — The end of the ceremony

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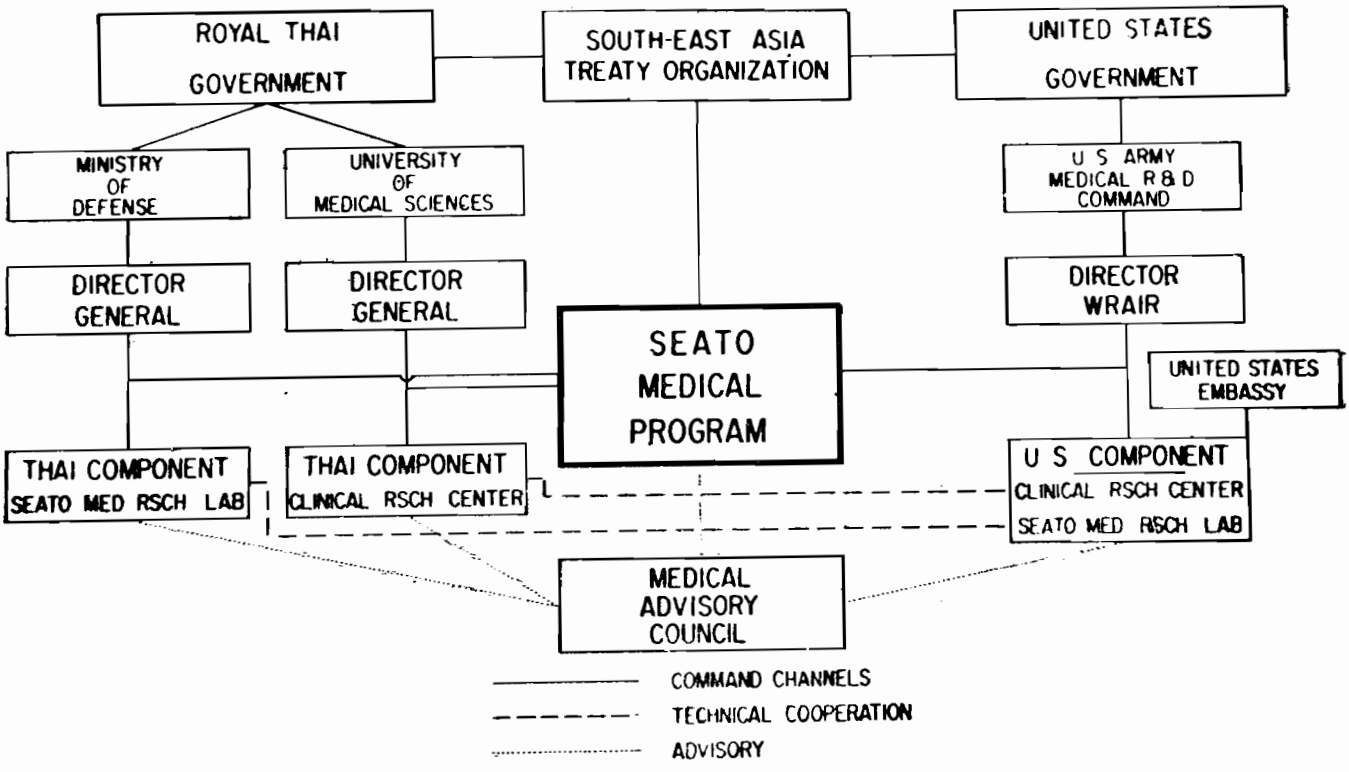
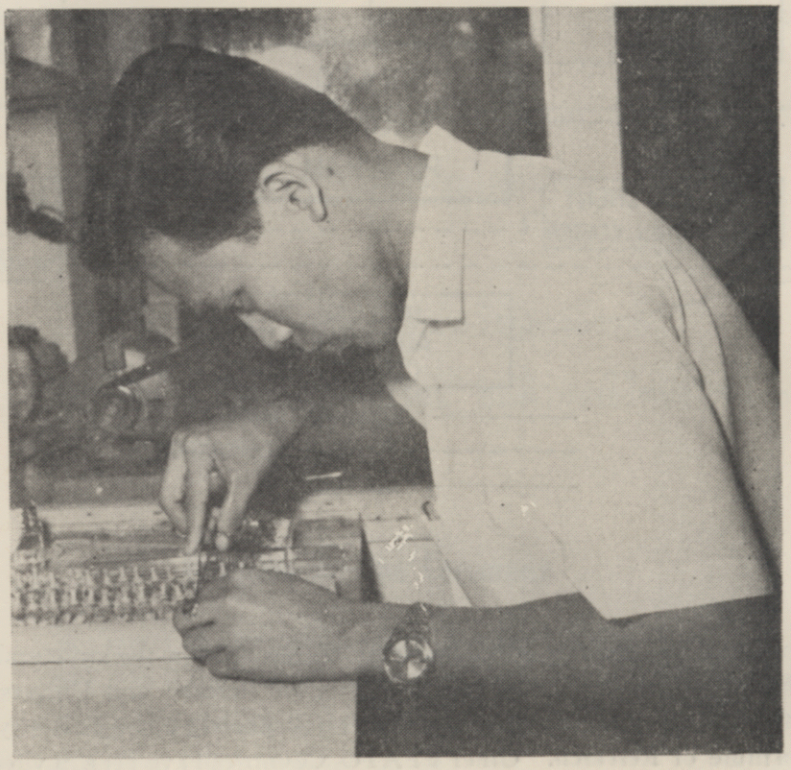
ORGANIZATIONAL STRUCTURE



At present, there are only two governments represented in the structural organization; the Royal Thai Government through the Ministry of Defense and University of Medical Sciences and the United States of America through a special unit and activity of the Walter Reed Army Institute of Research. Other SEATO Countries have been invited to contribute a Component, scientists or technicians. Material and equipment has been received from Australia and the United Kingdom. Researchers have been assigned from France, New Zealand, Pakistan and the Republic of Philippines. Although the SEATO Medical Research building will be expanded and the Clinical Research Center building is having the Cornerstone laying at this time, it is not too early for scientists to initiate communications and propose protocols that are of interest to them and their Nation. Disease is common to all man and it does not stop at an international boundary. What can be done here in Thailand will have a benefit for all of the South East Asia Treaty Organization members and more — It is for the benefit of all.

THAI HEMORRHAGIC FEVER

Thai Hemorrhagic Fever is a virus disease of young children. It is an acute disease and often causes death. For an unknown reason, Thai Hemorrhagic Fever occurs only in people of Asian ancestry. There is no "hemorragic" fever among the Caucasian population of Bangkok. The disease does not seem to be concentrated into any class or group of people. The Thai and Chinese population have a nearly equal incidence of disease. It does not appear to be related to improper diet and poor health conditions, for it infects the wealthy just as it does the poor.



The SEATO Medical Research Laboratory is studying this menace to health in its Department of Virology. The laboratory has confirmed that Thai hemorrhagic fever is caused by dengue and chikungunya viruses. Those viruses have been isolated from mosquitoes, and with the aid of the Department of medical Entomology, it has been decided that this disease is transmitted only by mosquitoes.

THAI HEMORRHAGIC FEVER STUDY CENTER

The Thai Hemorrhagic Fever Study Ward, a cooperative project of the Ministry of Health, the Royal Thai Army, the University of Medical Sciences and SEATO Medical Research Laboratory, Clinical Research Center is to intensively study children with Thai Hemorrhagic Fever during this epidemic season for a better understanding of this health problem. The research and patient care provides a teaching program for Thai physicians and nurses. Children admitted to the Center's modern well equipped ward are given individualized complete care and treatment while the physicians, nurses and laboratory scientists are investigating the extent and nature of their illness.

The scientific information already gained, will increase the general understanding of the disease and thereby allow more effective treatment in future epidemics.

ENTERIC DISEASE RESEARCH

Cholera and other enteric diseases, those of the intestinal tract, are a continuing health problem among the population of Thailand and South East Asia. The first step in combatting this public health problem is to determine the extent of the disease and the varieties of diarrheal organisms that will be encountered. Studies in the Department of Bacteriology and Immunology have revealed that a high percentage of the Thai Nationals and the Caucasian children residing in Bangkok are carrying diarrheal bacteria in the absence of illness.

The use of antibiotics to moderate the effects of diarrhea is related directly to the susceptibility of the bacteria to available antibiotics. The problem of antibiotic-resistant bacteria could be critical in Thailand where antibiotics are readily available without a prescription. One study is to determine the susceptibility to antibiotics of diarrhea-producing bacteria.

RICKETTSIAL DISEASES

Rickettsial diseases though less common than those produced by bacteria, viruses and amoebae are in some cases severe. Typhus, tick fever, Rocky Mountain Spotted Fever and others are in this category. The rickettsiae is an organism smaller than normal bacteria, yet larger than virus. Scrub typhus is a rickettsial disease transmitted to man by infected larval mites (chiggers) and characterized by fever and rash. During the past few years the distribution and abundance of this disease in wild mamals, insects, and humans in Thailand has been investigated. Mammals are collected in the field and ectoparasites (chiggers, mites and ticks) are removed and identified. The ectoparasites are inoculated into mice for isolation of the disease. Isolation of rickettsiae can be done from blood of patients sick with the disease.

MEDICAL ENTOMOLOGY

Until recent years identification and classification or many types of Thailand mites and mosquitoes had not been established. Before it was possible for the Department of Medical Entomology to study the disease-carrying insects of Thailand, it was necessary to know which species were being dealt with. Hundreds of types of mosquitoes and mites, not known before to exist in Thailand have been identified and classified. Large numbers of mites, fleas, ticks, and other ectoparasites are collected from rodents and other small animals. These animals act as reservoirs of infections from which the various ectoparasites pick up the disease organisms and transmit them to man. Laboratory and field studies have identified those insects which are carriers of malaria, hemorrhagic fever, Japanese encephalitis, and trachoma.

Research has been completed which indicates a relationship in the filth fly population and trachoma, a disease of the eyes. A five year project will undertake to classify and describe all of the species of mosquitoes in South East Asia especially noting those that are vectors of disease.

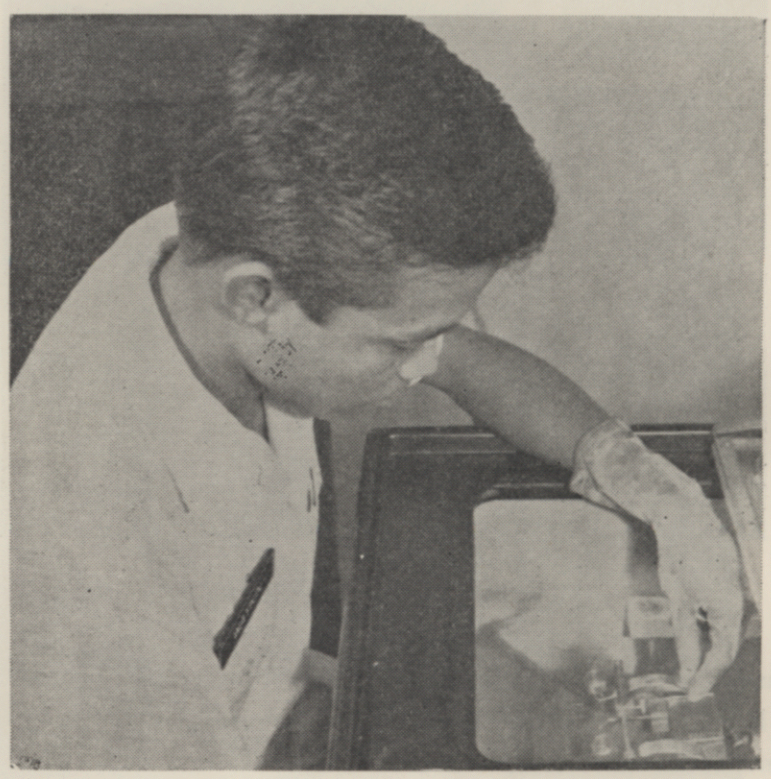
BACTERIOLOGY AND IMMUNOLOGY

In Thailand and South East Asia, unusual or puzzling type of bacteria are sent to the Department of Bacteriology at the SEATO Medical Research Laboratory. This Department serves as a reference laboratory for hospitals, doctors and research scientists. Scientists are always prepared for unplanned trips to any location in Thailand at the report of suspicion of a disease outbreak such as cholera. The scientists and technicians will leave by the most expeditious transportation and the work to control the disease begins immediately. Some organisms are delicate and special care must be taken not to destroy them before identification.

A transport media has been developed and distributed to upcountry doctors so they send specimens to Bangkok for identifications. Bacteria can survive for a week or more in this media during shipment.

PATHOLOGY

In collaboration with pathologists and physicians from Thai institutions, SEATO Pathologists are intensively studying diseases of the liver to determine which diseases are present in the population and if and how they are different from diseases found elsewhere in the world. From these studies we may also learn whether the dengue virus causing hemorrhagic fever in children contributes to the cause of hepatitis in older patients.



In Udorn Province 90% of the population have tiny flat worms (flukes) in the bile passages of the liver. The Department of Pathology is trying to determine how much sickness and disability this disease causes. Many people are also afflicted with other liver diseases. To solve the question concerning liver fluke damage, the amount of damage caused by other diseases must also be studied.

MALARIA

Malaria, the most infamous of all mosquito-borne diseases, is still a major public health disease problem in S.E. Asia and in other parts of the world. Malaria distribution is limited by the range of mosquito vectors. In 1957 it was estimated that nearly one billion people, or more than one third of the world population, were exposed to malaria infection.

Certain Anopheline mosquitoes are known to be resistant to insecticides, and recently strains of malaria have become resistant to some of the newer antimalaria drugs. To date, twelve, proven cases of chloroquine-resistant malaria have been reported in Thailand alone. Because of the difficulties facing public health authorities, a reawakening of interest in malaria research has become apparent.

MEDICAL ZOOLOGY

Liver fluke disease, Opisthorchiasis. is contracted in humans by eating raw fish, and infects 90% of the population of Northeast Thailand. Roughly 15% of the Thai population, or 3.5 million people, are infected by the liver fluke, Opisthorchis viverrini. The disease is not often fatal, but contributes to general physical degeneration. It is characterized by malaise, a feeling of being washed-out, chronic weakness, tiredness, lack of ambition to work, and in some cases, a painful and swollen abdomen.

When research began on liver fluke disease in Thailand, the identity of the fluke was not known. Its identity was discovered after approximately eighteen months of diligent work. In addition to the identity of the liver fluke, it was necessary to determine the life cycle of the fluke. The life cycle has been established.

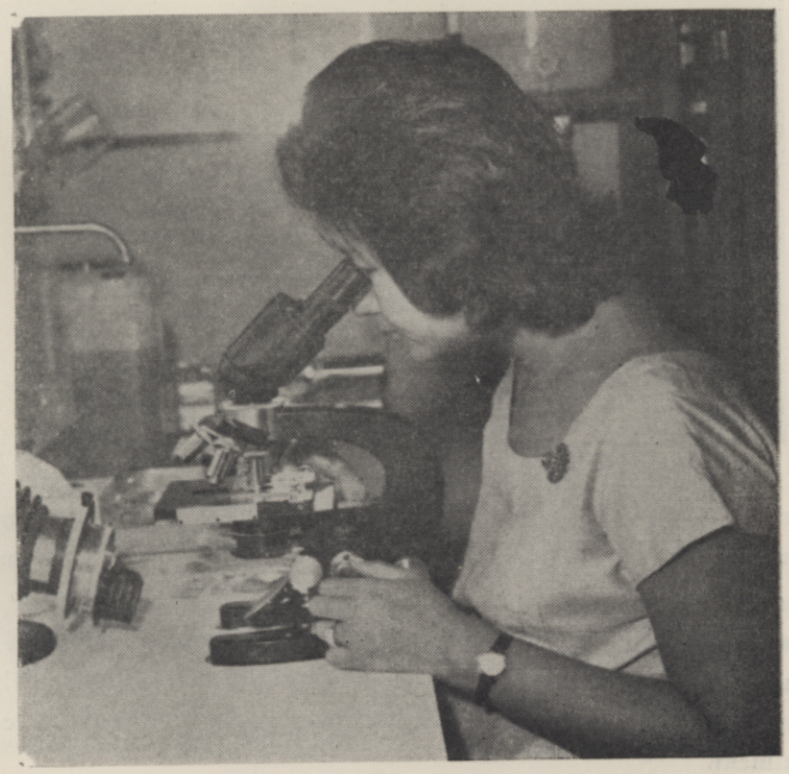
At present drugs are being tested to determine their effectiveness against liver flukes. The best method to prevent this disease is to educate the people to eat fish only after thorough cooking.

AMOEBIASIS RESEARCH

Amoebic dysentery, or Amoebiasis, is a significant health problem in Thailand. There are several types of amoeba, microscopic one-celled animals. Most of these amoeba cause no health problems or difficulties to man. There is one species, *Entamoeba Hystolitica*, which causes severe disease, Amoebic dysentery. Thailand is very suitable to studies of this disease, for evidence seems to show a very high percentage of Thai persons have this organism within their intestines.

This disease, often diagnosed only as dysentery (which is less severe) causes damage to the intestines, liver, and occasionally the brain. Unfortunately, at present little can be done for the patient having an invasion of the brain by this organism.

Research in two major areas, that of experimentally trying to cause the disease, and secondly changing the circumstances and conditions under which it is naturally and normally found, might provide a solution to the problem of amoebic dysentery and facilitate efforts in combatting this disease and its harmful efforts.



VETERINARY MEDICINE

The Department of Veterinary Medicine undertakes research jointly with the Department of Livestock Development. Research programs are continuing on Leptospirosis, anthrax, the development of new animals for laboratory and scientific support, and the maintenance of the producing normal colony.

An animal colony is a "must" to a research institution. Safety tests of all types must be evaluated in animals before drugs or procedures are used in man.

Leptospirosis, an important disease in humans and animals, is difficult to diagnose because of differences in the hosts symptoms. It masquerades usually, as a fever of unknown origin.

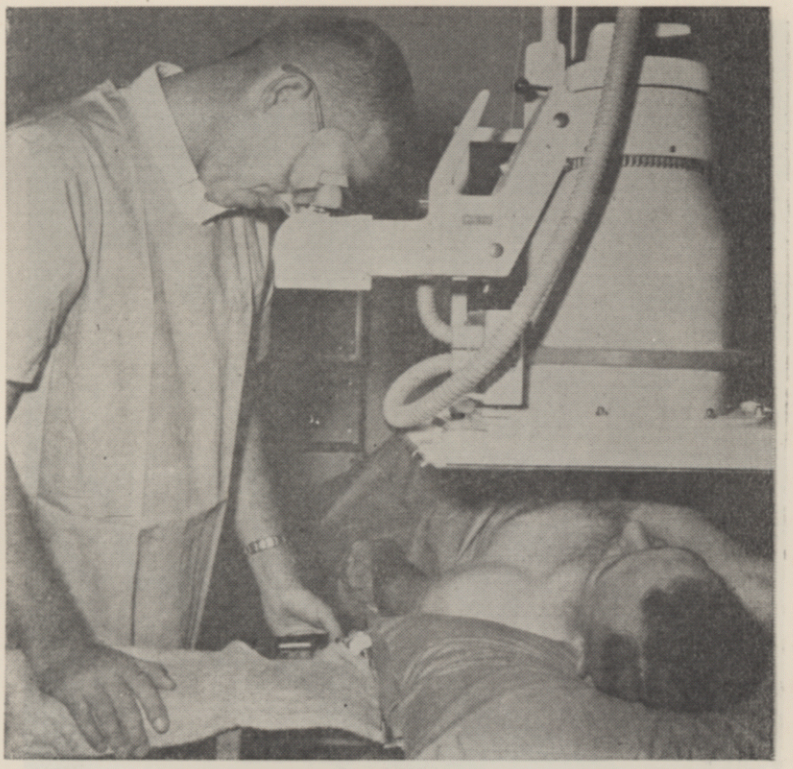
Because anthrax is not an uncommon disease in both man and animal in Thailand a survey was made to determine the prevalence in all seventy one provinces. Samples of specimens for anthrax study may show a variation in characteristics of the microorganism which on further identification might lead to a better vaccine. From sensitivity studies, specific drugs can be selected for treatment.

CLINICAL STUDIES

Clinical studies of man and his diseases require control of the patient, his diet, the medicines, and other therapy and the tests carried out in his behalf. These conditions demand a complex of activities and diagnostic rules. The Clinical Research Center facilities are for research in infectious diseases, malnutrition diseases, cancer, heart disease, and other diseases that can be studied best in Thailand. The Clinical Research Center is a specialized 40 bed research hospital.

Well trained nursing and dietetic staffs provide precise control and observation, with direct support of specialized laboratory and diagnostic facilities, operating rooms, x-ray service, and a radioisotope section. One of the most important parts of the untit is the biochemistry laboratory and its modern, automated equipment. At present there are two biochemical research laboratories and a large nutritional biochemistry laboratory.

HEART DISEASE: Surveys to estimate the incidence of heart diseases in the Bangkok area have shown that large numbers of children and adults suffer from heart diseases. Special diagnostic studies on those patients are being carried out in the cardiac catheterization laboratory of the Pra Mongkut Klao Hospital.



ANEMIA: A survey to determine what types of anemia occur in Thailand and with what frequency has been carried out in the central, northern, northeastern and southern areas of the country. This survey has shown that anemia is an important health problem and has provided guidance in programs to erradicate this common ailment.

NUTRITIONAL DISEASES: It is well known that poor nutrition can not only cause disease but also contributes to the severity of other diseases. The nutritional research program of the Clinical Research Center includes studies of the cause of beri-beri in infants and the nutritional aspects of the urinary tract stone problem.

Medical Education:- In addition to finding ways of improving the diagnosis and treatment of disease, teaching is an important activity of the Clinical Research Center. Fellowships are available to graduates in Medicine and related sciences from Thailand and other SEATO Nations to work and study at the Center.