The development of public health in Thailand has been in relation with the monarchy since the Sukhothai period. This Chapter therefore focuses on analysis of the relations between the monarchs of the Chakri Dynasty and the Thai public health which can be described in eras as follows:

1. The Era of Thai Traditional Medicine Revival (1782-1851)
The reigns of King Rama I to King Rama III were the beginning period of Ratanakosin was a period of national construction with efforts in assembling various technical disciplines to be used as references for education and national development.

1.1 The Reign of King Rama I (1782-1809)
Prabaj Somdet Phra Buddhayodpha Chulalok the Great (King Rama I) renovated Wat Photharam (temple) or Wat Pho and renamed it Wat Phra Chetuphon Wimon Mangklaram. This temple had a collection of traditional medicine formulas and body stretching techniques inscribed on cloistered walls. For the government’s drug procurement, the Department of Pharmacy (Krom Mo Rong Phra Osoth) was established, similar to that in the Ayuthaya Period. The medical doctors who were civil servants were called Royal Doctors (Mo Luang) and others were called Private Doctors (Mo Rarsadorn or Mo Chaloeisak).

1.2 The Reign of King Rama II (1809-1824)
Somdet Phra Buddhalertla Napalai (King Rama II) collected and gathered traditional medicine textbooks by inviting disease experts and pharmaceutical experts to assemble. Anyone having a good medicinal formula was requested to present it to the King. Then the Royal Doctor Department selected and inscribed the good ones in the Royal Formulas for the Royal Pharmacy (Tamra Luang Samrab Rong Phra Osoth) for public benefits. In 1816, the King promulgated the Royal Pharmacists (Panakngarn Phra Osoth Thawai) Law, under which royal pharmacists had powers to seek medicinal herbs throughout the country; and no one could raise any objection. They usually pass on the practices to their next generations.

1.3 The Reign of King Rama III (1824-1851)
Somdet Phra Nangklaao Chao Yuhua (King Rama III) renovated Wat Ratchaorasaram and traditional medicine formulas inscribed on stone plates and stone columns of temple verandas. With the royal command, Wat Phra Chetuphon was renovated once again and, in the temple compounds, medicine formulas were inscribed on marble plates affixed to the walls of the temple and cloisters giving details of causes and cures of diseases. Besides, endanger herbal plants were also planted at the temple. These were to let people study and use for self-care without confining them for use in any particular families. The temple was thus considered the first open university in Thailand.

In 1828, the fifth year under the reign of King Rama III was for the first time that Western medicine began to play a key role in medical and public health system in Thailand. Disease curing was provided in parallel with disease prevention. At that time,
Dr. Dan Beach Bradley, or known by local people as Mo Brad-leé, an American Christian missionary who came to Thailand in 1835, initiated disease prevention for the first time in the country with effective smallpox inoculation. Then, in 1838, the King advised the Royal Doctors to learn inoculation from Dr. Bradley in order to provide the immunization to civil servants and the public. In 1849, Dr. Samuel Reynolds House, or known as Mo House, another American missionary doctor, introduced the use of ether as anaesthetic for the first time in Thailand.

2. Era of Civilization
During the reigns of King Rama IV through King Rama VI, there were more diplomatic relationships with Western countries and more Christian missions visited Thailand. The Kings visited foreign countries and brought back various kinds of civilization to be applied in the country which steadily became modernized; so did the medical and health system.

2.1 The Reign of King Rama IV (1851-1868)
During that time, the Thai medical service was divided into two systems: traditional medicine and modern medicine. Three American doctors (Dr. Bradley, Dr. House and Dr. Lane) lived in Thailand for a long period of time. Dr. House played an active role in the control of cholera by using water mixed with tincture to treat patients orally. Although Western medicine was further expanded, for example to obstetric or childbirth services, it was unable to change the value of the people as traditional medicine had been used culturally for several generations and was part of Thai’s life style.

2.2 The Reign of King Rama V (1868-1910)
Previously, there was no public hospital to provide curative care to the people as only temporary hospitals were set up at various places to provide care for patients during epidemics. After the epidemic subsided, the hospitals were abolished. Somdet Phra Chulachomklao, King Rama V, initiated medical care for the poor by establishing the Hospital Management Committee in 1886 under the Chairmanship of the King’s brother, Prince Siriwachsangkat. The hospital was constructed and completed in 1888 and named Siriraj Hospital in commemoration of his son, Prince Siriraj Kakutaphan, who died of dysentery. Later on, the King established the Nursing Department responsible for the management of Siriraj Hospital, replacing the Hospital Management Committee in 1889. The Department was then under the Ministry of Education (Krasuang Dhammakan) with the King’s brother, Prince Damrong Rachenuparp, as the Director-General. During that period a number of major medical services events occurred:

* In 1889, a medical school (Rongrian Phaetayakorn) was established at Siriraj Hospital, whose curriculum included both Western and traditional medicine. Then, in 1895, the first medical textbook (Tamra Phat Sart Songkhroa) covering both types of medical practices was published.

* In 1896, a midwifery school was established in the Siriraj Hospital compound with personal funds from Queen Sri Patcharintara Boromrachininart.

* In 1897, a new edition of the medical textbook was published whose content was mainly Western medicine.

* In 1905, a sanitation management program was piloted for the first time in Tambon Tha Chalom of Samut Songkhram Province.
* In 1907, two medical textbooks, i.e., Vejasart Vanna and Tamra Phat Sart Songkhroa were published and considered the first national pharmaceutical textbooks.

* A Medical Division was established to be in charge of epidemic control and smallpox inoculation for the people living outside the capital.

**2.3 The Reign of King Rama VI (1910-1925)**

During the reign of Somdet Phra Mongkutklao Chao Yuhua or King Vajiravudh (Rama VI), a number of medical and health activities were initiated as follows:

* In 1911, Chulalongkorn Hospital was established with partial funding from the King's own account and the Thai Red Cross Society (at that time known as Sapha Unalom Daeng).

* In 1912, the Pasteur Institute was established to be responsible for rabies treatment, and Vajira Hospital was also established.

* In 1914, under the Ministry of Interior, pharmacies (Osoth Sapha) were set up to provide curative care and dispense drugs; and later it was renamed Health Centre (Suk Sala).

* In 1916, the Nursing Department was renamed Public Protection Department (Krom Prachapiban) under the Ministry of Interior.

* In 1916, Prince Chainat Narenthorn modified the medical education by adding more clinical practice while withdrawing the traditional medicine as the two systems were not compatible and a difficulty in identifying knowledgeable traditional medicine teachers who were willing to teach.

* In 1917, the Army Medical School was established.

* In 1918, medical and sanitation programmes, previously under the Ministry of Interior and the Ministry of City Affairs (Nakhon Ban), were merged and named the Public Health Department on 27 November, with Prince Chainat Narenthorn as the first Director-General.

* In 1920, the Saowapha Institute was established.

* In 1920, the Thai Red Cross Society was registered as a member of the International Red Cross Council on 8 April.

* In 1922, the Young Red Cross Division and the Nursing School were established under the Red Cross Society.

* In 1923, the Medical Practice Act was enforced to control medical practices so that there would be no harm done by unknowledgeable or untrained practitioners.

**3. Era of Pioneering Modern Medical and Health Services (1917-1929)**

Somdet Phra Mahitalathibet Udulayadej Vikrom Phraboromrajchanok (commonly known as Prince Mahidol) was the first Thai prince to become seriously interested in medicine and public health. That was because he had deemed that the medical and health services were not up-to-date; and the people were highly vulnerable to illnesses, particularly communicable diseases. With his firm determination to provide modern medical care to the people, he devoted himself to the foundation and development of medicine by resigning from the Royal Thai Navy and studying medicine and public health at Harvard University, the United States of America. He intended to bring back modern technology for developing the Thai medical and healthcare system. Through his steady perseverance, he successfully graduated with a Certificate of Public Health and a Doctor of Medicine honour degree (cum laude). He then returned to Thailand to perform numerous medical and health activities that were extremely beneficial to the country and the Thai people. He had donated funds for such medical programmes as construction of medical school, hospital and nurses' dormitory. His personal financial support was used as fellowships for doctors and nurses to study abroad. He served as a Thai delegate in negotiation with the Rockefeller Foundation on assistance for Thai medical service development. His support for medical research involved the initiation
of the medical research and investigation programme at Siriraj Hospital. Besides, he had participated in teaching medical and nursing students, and served as a medical doctor-in-resident at Siriraj Hospital and Chiang Mai's McCormick Hospital. Furthermore, he had supported maternal and child health (MCH) services by modifying Vajira Hospital to be a large maternal hospital to serve as a training centre for nurses, midwives, public health nurses, social welfare workers and traditional birth attendants, so that there would be more MCH personnel. For all his life, he had undertaken activities to promote the nation's medical and health services that are greatly beneficial to all Thai citizens. It was the foundation for Thai public health that has resulted in steady and sustainable development, similar to that in other civilized nations. Due to his prestige and ingenuity, he was named the father of modern Thai medicine; and the University of Medical Sciences mainly producing medical and health personnel was renamed Mahidol University in commemoration of his good deeds.

4. Era of the Conception of the Ministry of Public Health

4.1 The Reign of King Rama VII (1925-1934)
During the reign of Somdet Phra Pokklao Chao Yuhua, commonly known as King Prachadhipok (Rama VII), the law on modern and traditional medical practices was enacted, specifying that:

A. Modern medicine: Modern medical practitioners were those who used healing arts based on knowledge from international textbooks that had progressed through research, studies, and experiments of scientific experts worldwide.

B. Traditional Medicine: Traditional medicine practitioners were those who used healing arts based on the observations and skills that had been verbally passed on from previous generations or the ancient textbooks with no scientific backups.

In 1926, the Public Health Department was reorganized and divided into 13 divisions, namely, Administration, Finance, Advisors, Editing, City Protection, Engineering, Health, Pharmacy, Narcotics, Mental-Illness Hospital, Sanitation Promotion, City Sanitary Doctors, and Vajira Hospital.

4.2 The Reign of King Rama VIII (1934-1946)
During the reign of King Ananda Mahidol (Rama VIII), in 1942 Prime Minister, Field Marshall P. Phibulsongkram, issued an order appointing the Committee on Medical Reorganization, which proposed the establishment of a Ministry of Public Health to the Cabinet and then to the Parliament. Then, the Ministry and Department Reorganization Act (Amendment No. 3), B.E. 2485, (1942) was enforced leading to the establishment of the present-day Ministry of Public Health.

Regarding medical services, more studies on herbal medicine were conducted during 1942-1943 while World War II was expanding to Southeast Asia, resulting in drug shortages. At that time, Professor Dr. Ouy Ketsingh conducted a study on antimalarial herbal medicine at Sattahip Hospital. After the war ended, the problem of drug shortages remained, the government then directed the Government Pharmaceutical Organization (GPO) to produce herbal medicines.

4.3 The Reign of King Rama IX (1946-present)

4.3.1 His Majesty King Bhumibol Adulyadej (Rama IX), the present King, has been interested in and concerned about well-being, particularly health conditions, of all citizens. He has made a great determination to make all Thai people well by initiating numerous projects including those on disease prevention, health promotion, curative care and rehabilitative services. All Thai citizens highly appreciate his graciousness. Even foreigners also realize and appreciate his health initiatives as evidenced by WHO's presentation of the Health For All Gold Medal in 1992 and the presentation of Gold Medal of Appreciation by the International Commission on Iodine Deficiency Disorder Control, for his advice on the concept and direction for disseminating iodised salt to prevent iodine deficiency. Besides, in 2001 the Franklin and Eleanor Roosevelt Institute and the Global Commission on Disabilities presented the Franklin Delano Roosevelt International Disability Award to honour the work on disable people which have met the targets of the United Nations' Action Plan on Disabilities. The public health activities that have been graciously supported/ initiated are enor-
mous as follows:

(1) Establishment of the Ananda Mahidol Foundation
The Ananda Mahidol Foundation was established because of His Majesty's interest in the welfare and well-being of the Thai people as it has been deemed that experts in advanced technical knowledge are required for national development. Thus, those with outstanding academic records should be promoted and supported to study abroad in certain fields with the expectation that upon graduation, such people will return to serve the country in their respective field of study. On a pilot scale, the initiative was financed with the çAnanda Mahidol Fundé in 1955. Then, on 3 April 1959, His Majesty decided to change the Fund's name and status to The Ananda Mahidol Foundation and donated 20,000 baht of his personal fund as an endowment, in commemoration of his elder brother, the late King Ananda Mahidol (King Rama VIII), and awarded a first scholarship for studying medicine abroad.

The foundation's objective is to promote and support advanced studies with scholarships for qualified bachelor's degree graduates from any Thai university. The scholarship recipients, who are outstanding technically and morally, will further their advanced studies abroad, then upon graduation return to transfer such knowledge to a younger generations in an effort to help develop the country. Several research institutes have been established for returnees to undertake research in the country.

His Majesty, who founded the Foundation, has served as its honorary president; and Executive Committee composed of 10 members chaired by the late Princess Mother (Somdet Phra Sri Nakarintara Boromrajchonnani). At present, the Executive Committee comprises 18 members under the chairmanship of Her Royal Highness Princess Maha Chakri Sirindhorn (Somdet Phra Debaratanarajasuda Sayamboromrajakumari). From 1959 to 2001, 209 Mahidol awardees graduated, out of which 67 were medical doctors and 4 were dentists, and other 54 awardees (6 were medical doctors and 7 were dentists) still studying. The returnees took turns appearing on the television programme entitled One of the Royal Initiatives: Human Capacity Building Project, on Channel 9, MCOT, every Saturday at 20.30 hours. Its purpose was to disseminate their knowledge and experiences to the public.

(2) The Establishment of the Rajapracha Samasai Foundation
In 1954, His Majesty the King granted a permission to show the movie of his personal life at Chalerm Krung Theatre. His Majesty gave all the proceeds of 444,600 baht for the construction of the Ananda Mahidol Building at Siriraj Hospital in commemoration of the late King Ananda Mahidol. An additional budget of 1,558,561 baht from his private funds and public donations was also given for the construction. The building was inaugurated by His Majesty on 9 June 1957.

Upon the completion of that building at Siriraj, there was a funding leftover of 175,065 baht. At the request for funding of the Public Health Minister, at that time, for building an institute for personnel training and research on leprosy at Phra Pradaeng Hospital in the amount of one million baht, His Majesty gave the remaining funds to initiate such activities for leprosy patients. On 16 January 1958, Their Majesties the King and Queen graciously presided over the foundation stone laying ceremony at Phra Pradaeng Hospital. Upon completion of the building, at the MOPH's request, His Majesty named the place çRajapracha Samasai Instituteé. The King was also concerned about the education of lepers' children who were not infected, but isolated in a nursery of the Department of Health. Rajapracha Samasai School was then established under His Majesty's initiative for this purpose with the initial royal funds of one million baht. The King presided over the school opening ceremony and visited it several times. At present, the school has its own foundation separated from the Rajapracha Samasai and has been transferred to the Department of General Education, taking other students, similar to other schools of the Ministry of Education.

(3) Iodine Deficiency Control Project
His Majesty the King has been so concerned about the problem of iodine deficiency disorders. Consequently, the Iodine Deficiency Control Project is one of the top priority projects of the Ministry of Public Health. It started in 1991 when His Majesty the King initiated a pilot project in Samoeng District of Chiang Mai Province to distribute iodized salt for preventing iodine deficiency disorders such as goitre and mental retardation. Fur-
thermore, His Majesty has been interested in developing an appropriate technology for small scale iodized salt producers and supported Chiang Mai Technical College to develop a medium-size iodizing machine, which is currently being used nationwide. Later, His Majesty supported a study on salt route to understand the salt production and distribution across the country. The results have been used by the MOPH in assisting iodized salt producers appropriately. On the occasion of the 50th Anniversary (Golden Jubilee) of His Accession to the Throne in 1996, His Majesty bestowed iodized salt to the MOPH for further distribution to the people nationwide. With the royal permission, the Golden Jubilee emblem was printed on each bag of salt; as thus the salt was called royally bestowed salt. His interest and support have stimulated awareness and cooperation among various agencies concerned in all sectors of Thai society, resulting in the project success nationwide.

4.3.2 Her Majesty Queen Sirikit has always supported the King's health projects. The Queen serves as the President of the Thai Red Cross Society and as a patron of various associations and foundations involved in health activities such as the Foundation for the Blind, the Foundation for the Mentally Retarded, and the Foundation for the Deaf. Importantly, Her Majesty is the patron of the Polio eradication campaign. The disease is expected to be eradicated in Thailand in the near future. Besides, Her Majesty was presented with the Lindbergh Award on 16 May 1995 from the Charles A and Anne Morrow Lindbergh Foundation for her internationally praised work on creating a balance between technology and nature. She was the first lady to receive this award. In addition, Her Majesty the Queen has been supporting and participating in other health activities as follows:

(1) Royal Medical Services Project. During Her Majesty's stay at any of the royal residences outside Bangkok, the Queen will have a mobile medical unit, comprising royal doctors, Red Cross personnel and royal staff, provide medical care to the people and refer the severe cases to hospitals.

(2) Village Doctors Project. Her Majesty has initiated the village doctors project to enable villagers to help each other. Selected village volunteers were trained with the village doctors course and living allowances provided by the project. Upon completion, each trained village doctor was given a bag of medical supplies and returned to his own village to provide primary care service before referring to a doctor. The project has been very useful for rural villagers.

(3) Royal Patronage of Patients. The Queen has been patronizing poor patients in terms of medical care, living allowances, education allowances for children, and appropriate occupational support.

4.3.3 Her Royal Highness the Late Princess Mother (Somdet Phra Sri Nakarintara Boromrajchonnani), the King's mother, was one of the important members of the Royal Family who had carried out and supported numerous public health activities as follows:

(1) In 1956, H.R.H. Princess Mother began to patronize the Disable Assistance Foundation and donate her personal budget for the operation of the Foundation as well as in charge of contacting with concerned agencies and personnel both inside and outside the country to seek supports for the disabled.

(2) In 1963, H.R.H. Princess Mother patronized the Foundation for Lepers in Lampang Province and donated her personal assets for construction of Jitardee School and its dormitory as well as sponsoring lepers' children to study and support operation of the school. Consequently, the quality of life of lepers' children and people with poverty have been much improved.

(3) In 1967, H.R.H. Princess Mother accepted the New Life Foundation under her patronage in order to help rehabilitate the disabled lepers.

(4) In 1969, the Por Or Sor Wor Mobile Medical Units were set up. The units comprise volunteer doctors, dentists, nurses, health workers and volunteers from both central and provincial levels. The units have been providing curative, preventive, promotive and rehabilitative care to the people in remote areas.
(5) In 1973, the Voluntary Aviation Medical Service was launched and later renamed as the Radio Medical Services Units to provide medical consultation to remote health centres via radio communications in 25 provinces since 1976. The rest were under the responsibility of the Ministry of Public Health. Then, in 1996 they were all transferred to be under the Ministry of Public Health.

(6) In 1974, the Princess Mother established the Voluntary Medical Foundation of H.R.H. Princess Mother and bestowed a first endowment of one million baht. Later, the Royal Thai Government and foreign government and private sectors have provided financial supports and medical supplies. In 1986, the specialized medical services was initiated to provide surgical care for patients with cataract, cleft lip and palate, prosthetic/orthotic services, rheumatic heart disease and impacted tooth.

(7) Dental services of the mobile medical service units are:

(7.1) Activities on the National Dental Health Day, 21 October each year.

(7.2) Mobile dental services, two mobile dental service vans were provided to the provinces with mobile medical services to provide dental service to the people.

(7.3) Dental health surveillance among students in primary schools and border patrol police-operated schools.

(7.4) Campaign on clean teeth good gums in commemoration on the death of the late Princess Sri Nakarintara Boromrajchonnani on 18 July each year.

(8) In 1992, H.R.H. the Princess Mother donated her personal assets of 500,000 Baht to establish the Fund for artificial legs and H.R.H. Princess Galyanivadhana Krom Luang Narathiwat Rajanakarin also donated 750,000 Baht to produce artificial legs for poor people regardless of their races and religious beliefs. Besides, H.R.H. the Princess Mother had also financially supported research for various individuals and institutions to strengthen their science and technology capacity in the fields of health sciences, chemistry and pharmacy. In recognition of her prestige and devotion for health promotion of Thai people, in 1990 the World Health Organization presented H.R.H. the Princess Mother with the Health-For-All Gold Medal. Furthermore, on 21 October 2000, UNESCO has acknowledged H.R.H. Princess Mother the World's Great Personality. In addition, at the 100th birthday anniversary, H.R.H. Princess Mother was named the Mother of Thai Public Health

4.3.4 Her Royal Highness Princess Galyanivadhana Krom Luang Narathiwat Rajanakarin is the President of the Kidney Disease Foundation of Thailand and has supported and promoted curative care, prevention of kidney and urinary tract diseases, and research as well as dissemination of knowledge on such diseases. Besides, the Princess has continued supporting projects initiated by the late Princess Mother and has served as the Honorary President of the Voluntary Medical Services Foundation of the Princess Mother since 18 August 1995.
4.3.5 **His Royal Highness Prince Maha Vajiralongkorn is the Honorary President of the Crown Prince Hospital Foundation.** The Crown Prince has presided over the foundation stone laying and opening ceremonies of all 21 Crown Prince hospitals (district-level hospitals in remote areas). H.R.H. Crown Prince has great interest in the health activities, he regularly visits the hospitals and gives advice to the Ministry of Public Health as a guideline for the improvement of the hospitals' efficiency and quality for the people's benefit.

4.3.6 **Her Royal Highness Princess Maha Chakri Sirindhorn (Somdet Phra Debaratanaajasuda)** is particularly interested in improving the nutritional status of children and youths and thus several royal projects have been initiated and launched such as the Agriculture for School Lunch Project which aims at improving health and nutritional status of children in remote areas particularly in border patrol police-operated schools. Later on, the Ministry of Education has applied this project in other schools nationwide. Besides, H.R.H. has provided her personal assets to support the Project on Nutritional Status Improvement for Children age under 5 and the Child Development Centres.

H.R.H. Crown Princess has also initiated the Nutritional and Health Promotion for Mothers and Children in the Remote Areas Project in order to promote child growth and development. The project aims at providing the knowledge on nutrition and health services to pregnant women, lactating mothers, and children aged 0-3 years. This will ensure healthy newborns who will grow up and develop in their full potential. In addition, the Princess serves as the Chairperson of the National Committee on Iodine Deficiency Disorder Control. With her leadership and support, the iodine deficiency problem has been reduced to the level that it is no longer a public health problem.

4.3.7 **Her Royal Highness Princess Chulabhorn** has an outstanding role as a scientist. Her reputation is internationally recognized as evidenced by being awarded the Einstein Gold Medal from UNESCO. H.R.H. Princess Chulabhorn is the founder of the Chulabhorn Foundation which aims to assist in medical and health education. The Chulabhorn Research Institute was also established by H.R.H. as a centre for scientists to carry out research and development of scientific products that will be beneficial to the nation and resolve urgent health, environmental and agricultural problems. Besides, the Institute has also implemented the project on Chulabhorn Village Development in the Southern provinces of Nakhon Si Thammarat and Surat Thani in order to improve the environmental and living condition of the people, based on the primary health care and self-reliance concept and approach.

4.3.8 **Her Royal Highness Princess Somsawali** has performed royal functions initiated by Their Majesties the King and Queen continuously. For social development projects, H.R.H. has been involved in activities of the Saijai Thai Foundation since 1975 by visiting and boosting morale of military and police officers, volunteers and civilians who were injured during fighting against terrorists and hospitalised. H.R.H. Somsawali has also been elected a member of the Foundation Committee.

Regarding the work in medicine and health, H.R.H. Princess Somsawali is particularly interested in the HIV/AIDS as evidenced by her regular participating in presiding over the Thian Song Jai function (Candle light in the mind) held by the Thai Red Cross Society and Wednesday Friends Club, a club of people living with HIV, on 1 December, the World AIDS Day, every year. It was held for the first time in 1991 with an objective to create understanding between infected and non-infected or the society as a whole that people living with HIV do no harm but can be healthy and beneficial to families and society. H.R.H. Princess Somsawali also extends her kindness and concern to all projects under the Thai
Red Cross Society such as the Prevention of Mother-to-Child Transmission Project, the Friends Help Friends Project, etc.

In addition, H.R.H. has performed other duties on behalf of H.R.H. Crown Princess Chakri Sirindhorn. For instances, presiding over the graduation ceremony of nursing students from nursing colleges under the Ministry of Public Health and privates nursing colleges such as Mission Nursing College and Christian Nursing College almost every year. Sometimes, H.R.H. presides over the exhibition on Disabled People's Day held at Suan Amporn. She also expresses her concern toward older people on their health and well-being and makes them joyful when she pays visits to elderly homes.