



Life Sciences and Health in Thailand

Thailand offers high-quality medical services, attentive healthcare staff and unique wellness services at reasonable prices. The country is the Southeast Asian leader in the healthcare sector and has become one of the world's most popular health and wellness tourism destinations. It is looking for digital and advanced technology to upgrade medical devices and healthcare facilities to serve rising demand from the pandemic, aging population and medical tourists.

At a glance

With its strong healthcare infrastructure and an international reputation, Thailand has been ranked 6th in Global Health Security Index 2019 by Johns Hopkins University Research in the United States, 6th out of 89 countries (1st ASEAN) in the USA's CEOWORLD magazine 2019 and 8th place in this year's Health Care Index by Numbeo (a collective crowd-sourced global database).

Thailand's healthcare industry growth is also supported by its world-class medical facilities. The country is among the first in Asia to have hospitals accredited by the Joint Commission International (JCI), which is considered the gold standard in global healthcare. It also has the highest number of JCI accredited organisations in Southeast Asia, currently at 61.

Before the COVID-19 pandemic, international tourists travelled to Thailand to take advantage of the great value of healthcare services. These include cosmetic surgery and treatments, dentistry, cardiovascular treatment, orthopedic services, and health checks, as well as traditional medicines.

According to the Board of Investment of Thailand (BOI), the kingdom welcomes approximately 3.5 million medical tourists each year. Thailand's revenue from medical tourists in 2019 was about US\$600 million, ranked 3rd in the world after the United States (US\$3.5 billion) and South Korea (US\$655 million). Its revenue is

also the highest in ASEAN, followed by Malaysia (US\$350 million) and Singapore (US\$150 million).

The Thai population also benefits from the country's high quality medical facilities. Since 2002, the country has achieved universal health coverage through the implementation of the Universal Coverage Scheme (UCS), the Civil Servant Medical Benefit Scheme (CSMBS) and the Social Security Scheme (SSS). The UCS alone covers approximately 75% (47 million) of the population. It provides free access to essential medicines, health services and emergency care for both in- and out-patients.

The pandemic impact

Thailand was the first country to report a confirmed COVID-19 case outside China (a Chinese tourist). After that in mid-March 2020, the number of cases started accelerating in the nation and throughout many countries in Southeast Asia.

The Thai economy has been severely impacted by the pandemic. The Office of the National Economic and Social Development Council reported Thai GDP shrank by 6.1% in 2020 compared to 2019 and recently projected the economy to grow around 2% in 2021.

Even though the first outbreak (mid-March 2020) and the second wave (December 2020) were well contained, measures are still in place. Similarly to many countries in the region, Thailand has not



fully relaxed the border restrictions. The entry of foreigners to the kingdom is still very limited and quarantine requirements are applied to all arrivals, both local and foreign.

The Centre for Covid-19 Situation Administration (CCSA), led by Prime Minister Prayut Chan-o-cha, approved the extension of the state of emergency until the end of July 2021. The decree allows the government to improve disease-control plans without multiple approvals from various relevant agencies.

At present (June 2021), Thailand is battling the third wave of the outbreak. Starting from April 2021, the contagion has quadrupled the country's case count in just seven weeks. The wave started in Bangkok's night life entertainment venues and now has spread to crowded communities, construction camps and prisons, with dozens of clusters in the capital and throughout the country.

Restrictions have been tightened in every part of the country. The infections today (17 June 2021) are 3,129 new cases and 30 new deaths, bringing the total to 207,724 cases and 1,555 fatalities overall.

Organizations/companies who want to import COVID-19 vaccines must receive permission and must apply for registration with the Thai Food and Drug Administration (FDA). So far the authorities have approved the vaccines of Sinovac, AstraZeneca, Johnson & Johnson, Moderna and Sinopharm for emergency use in the country.

The government aims to vaccinate 70% of the nation by the end of 2021, but the progress has been slow so far. With a population of nearly 70 million, only 2.5 million shots have been provided to health-care and front-line workers, and residents in areas that have an ongoing outbreak. The Prime Minister's plan expects millions of doses to be delivered, with a swift roll out from June onwards.

The Tourism Authority of Thailand is betting on a revival in tourism to help exit its recession. It plans to test reopening the country by reopening Phuket, the resort island, before expanding to other key tourist hotspots. The Phuket Sandbox experiment plans to allow vaccinated foreign tourists to enter Phuket island from 1 July. These visitors can move around freely on the island for 14 nights before they can travel to other places in the country. Still, the visitors will need to present a certificate of entry, a valid visa, health insurance, and Covid-19 test results along with their vaccine certificate.

As we are speaking (17 June), the plan is still under discussion. For more information on the Phuket Sandbox, please visit <https://www.tatnews.org>.

Growing market demand

Elderly care

Thailand is already considered as an "aging" society (meaning 10% of the population is 60 years old and over). The World Population Ageing Report of 2019 forecasts that by 2030, almost 20% of the Thai population will be 65 and above.

This trend will increase the demand for medical devices to treat chronic diseases and healthcare products to support the lifestyles

of the elderly. For example, wearable devices; software and digital technologies for smart home solutions via smart electronic devices; health-services software and care robots.



Besides the healthcare sector, other sectors also have an opportunity to offer services. For example, Ramathibodi hospital is partnering with real estate developers in developing senior care residence projects as accommodation for elderly patients. As a result, Dutch business prospects in providing sustainable solutions for elderly care could play a role on this market.

Hospital Build

The private hospital sector is expanding rapidly. At the moment, there are 370 registered private hospitals in the country. They have been actively developing existing premises and building new hospitals, branches or clinics to meet a rise in domestic demand and a surge in medical tourism. Large-scale private hospitals also expanded to border towns to support the demand from neighbouring countries e.g. Cambodia. Some have improved their facilities by developing 'excellence centres' specialising in complex medical treatments, or building rehabilitation centres and care homes for elderly.

Medical Devices

According to Thailand's Office of Industrial Economics, the value of the Thai medical device market rose to US\$6 billion in 2019, an increase of 70% over the decade. This was also the highest value among ASEAN countries.

The growth was driven by several factors. First, an increasing number of elderly patients with heart disease, stroke, cancer and diabetes in Thailand and the region. Second, an increasing number of medical tourists in Thailand. Lastly, a development of new facilities by hospital groups and new players.

The country is home to around 500 medical device manufacturers operating at present. Most of the manufacturers and exporters in Thailand are foreign-owned companies that export the products back to their home countries, such as Nipro, Hoya Optics, Molnlycke Health Care, CardinalHealth, Ansell, Greiner Bio-one.

Thai companies mainly manufacture disposable medical supplies such as medical gloves, syringes and catheters; durable medical supplies such as hospital beds and wheelchairs; and reagents and



diagnostic kits such as nephropathy reagent, diabetes reagent and blood-type reagent.

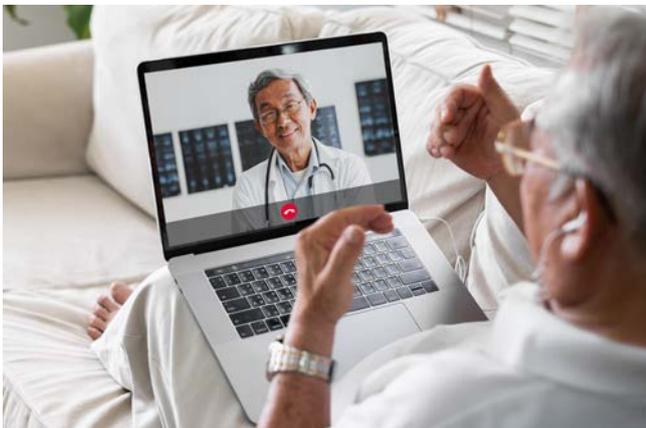
Thailand still relies on importation of medical equipment. Imports account for more than 80% of the total market. Examples of imported devices are X-ray machines, electrocardiographs, ultrasound machines, and ophthalmic products. There is some domestic production, but Thai products are not widely recognized in the market and account for a small market share due to the country's lack of high technology and production capacities.

Since 2020, local manufacturers have increased their production of COVID-19 related medical devices to meet the increasing demand. The products are personal protective equipment (PPE), ventilators, respirators, gowns and surgical mask/N95 to supply the local market and to export worldwide.

Therefore, there is room to invest in the Thai medical device industry, especially products with high technology and innovation.

E-health and telemedicine

As people live healthier and longer the need for e-healthcare is increasing. Many hospitals and healthcare facilities in Thailand are applying digital technology to their services such as using smartphone technology to assist with access to medical services (eHealth and mobile health), Electronic Medical Records and telemedicine to provide medical advice remotely. For example, Samitivej hospital has developed 'Samitivej Virtual Hospital' – a mobile application that provides real-time consultation with doctors.



Since Thailand continues to face challenges with shortages of doctors and medical staff, there will most likely be a growing demand for connected healthcare. This of course offers opportunities for Dutch technology, particularly in software and application developments and platforms.

Pharmaceuticals and biopharmaceutical

Thailand is one of the leading pharmaceutical markets in Southeast Asia and is considered one of the largest and most developed in ASEAN. In 2019, the pharmaceutical market was valued at US\$5.9 billion and it is expected to reach a value of US\$6.9 billion by 2024 due to the increasing demand for pharmaceuticals as a result of Thailand's aging population.

According to the Thai FDA data, there are 142 domestic pharmaceutical manufacturers accredited with Good Manufacturing Practice (GMP) standards. Many international suppliers already have a presence in Thailand because of the relatively skilled and affordable labour, reasonable technology and high quality control standards. The key foreign players are AbbVie, AstraZeneca, GlaxoSmithKline, MSD, Johnson & Johnson, Novartis, Pfizer, Sanofi and Takeda.

However, challenges remain because of quite time-consuming and bureaucratic procedures for obtaining a license (to manufacture or import) and registering drugs with the FDA, as well as applying for a patent from the Patent Office. In Thailand, pharmaceutical patents are treated the same as inventions in other fields. A claim for a pharmaceutical innovation must meet the usual criteria of novelty, non-obviousness and industrial applicability. The process can take five to ten years, and sometimes up to 15 years. Concerns are also raised on the enforcement of intellectual property laws.

Apart from pharmaceuticals, Thailand has been developing a cutting edge biotechnology industry. To achieve Thailand's national research and development (R&D) goals, the National Center for Genetic Engineering and Biotechnology (BIOTEC) was established. The National Science and Technology Development Agency (NSTDA) also provides resources to develop the critical mass of research necessary.

With strong and supportive government policies and good cooperation between universities and biotechnology companies, the country has linked science and business and is able to deliver biotechnological research and innovation. As of April 2021, the BOI already approved new projects in the field of advanced biotechnology worth around US\$78 million in investment.

AstraZeneca is planning to produce its COVID-19 vaccine in Thailand. The Thai FDA has approved Siam Bioscience as the manufacturing facility. AstraZeneca and Siam Bioscience have been working together closely to ensure that products are consistently produced and comply with the Thai quality standards. Samples from test batches made by Siam Bioscience have passed quality testing at AstraZeneca's designated laboratories in Europe and the United States in May 2021.

Thailand's medical hub policy and supporting tax incentives

The Thai government has made the healthcare sector a priority industry in its country's strategic plan. With the combination of the government's supportive policies and the BOI's incentives, the country attracts local and foreign investors to invest in Thailand.

To become a global medical hub, the government has implemented various initiatives aimed at empowering the country's medical industry. For example, the BOI gives a 50% deduction from the normal rate of corporate income tax after the expiry of the tax exemption period, which can be up to 10 years and varies depending on the industry and type of business.

Moreover, the BOI grants a "smart visa". These visas are for high-skilled professionals, investors, executives, and entrepreneurs in



startups in Thailand's 13 targeted industries, and they allow them and their families to stay in the country up to four years without having to obtain a work permit.

For more information on the BOI's incentives, please visit www.boi.go.th

COVID-19 update resources for investors

- Thailand Board of Investment measures on COVID-19 <https://www.boi.go.th/un/COVID-19>
- The information center for COVID-19 response measures (CCSA) <https://www.thaigov.go.th>
- Thailand situation update on COVID-19, the Department of Disease Control (DDC) <https://ddc.moph.go.th/viralpneumonia/eng/index.php>
- Media center and press release, Thai Ministry of Foreigner Affairs <https://www.mfa.go.th/en/page/press-release-information-2?menu=5d5bd3cb15e39c306002a9b9>
- Travel Advisory to Passengers Planning to Enter Thailand, the Civil Aviation Authority of Thailand (CAAT) <https://www.caat.or.th>

Key Stakeholders

Public Sector

- The Ministry of Public Health (MoPH) - a governmental body responsible for the oversight of public health in Thailand www.moph.go.th
- The Food and Drug Administration of Thailand (FDA) under the Ministry of Public Health - the regulator on the manufacturing, import and distribution of food, drugs, cosmetics, hazardous substances, psychotropic substances, narcotics, medical devices, and volatile substances www.fda.moph.go.th
- Government Pharmaceutical Organisation (GPO) - a state enterprise, which manufactures and sells pharmaceutical products www.gpo.or.th
- Thailand Centre of Excellence for Life Sciences (TCELS) - a single platform that supports the establishment of life science based business and investment in Thailand www.tcels.or.th
- Thailand Science Park - a technology and innovation hub of Thailand, providing one-stop service for innovation development and R&D in private sector www.sciencepark.or.th

- National Science and Technology Development Agency (NSTDA) - a bridge between academic research and the private sector www.nstda.or.th
- National Innovation Agency (NIA) – a public organisation that undertakes a broad-based and systematic approach in facilitating innovation development in Thailand www.nia.or.th
- Thai Customs Department, which has a role in controlling the movement of goods, including medical devices and pharmaceutical products into Thailand www.customs.go.th

Relevant Associations

- The Private Hospital Association, Thailand (TPHA) www.thaiprivatehospitals.org
- Thai Medical Device Technology Industry Association (THAIMED) www.thaimed.co.th
- Science and Technology Trade Association (STTA) www.stta.or.th
- Thai Business Incubators and Science Parks Association (Thai-BISPA) www.thaibispa.or.th
- Pharmaceutical Research & Manufacturers Association (PREMA) <http://www.prema.or.th>

Related trade fairs

- Thailand Lab International: Live 1 – 3 Sep 2021, BITEC Bangkok www.thailandlab.com
- Bio Asia Pacific 2021: Live 1 – 3 Sep 2021, BITEC Bangkok www.bioasiapacific.com
- CPhi South East Asia 2021: Online 29 Nov – 10 Dec 2021 / Live to be announced, IMPACT www.cphi.com/sea
- Medlab Asia & Asia Health: Online 27 Sep – 19 Nov 2021 / Live 20 – 22 Oct 2021, IMPACT www.medlabasia.com
- Medical Fair Thailand: Live 9 – 11 Feb 2022, BITEC Bangkok / Online 12 – 18 Feb 2022 www.medicalfair-thailand.com

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