

**TOWARDS
BECOMING**

NO.1

MEDICAL HUB OF

ASIA





Thailand:

TOWARDS BECOMING NO.1 MEDICAL HUB OF ASIA



In line with its Thailand 4.0 policy, the Thai government considers the healthcare industry to be a priority sector for investment and further development. This stance is reiterated in the Ministry of Public Health's 2016-2025 Strategic Plan entitled "Thailand: A Hub of Wellness and Medical Services".



While the government's policies provide the strategic direction needed for Thailand to strengthen its position as a regional medical hub, other factors including a strong foundation of health-related sectors, rising demand for health services, and attractive investment incentives, among others, also play significant roles in strengthening Thailand's position as the "Medical Hub of Asia".



With a strong healthcare infrastructure already in place and an international reputation for its highly-skilled medical professionals and international-standard medical services, Thailand has become a medical hub not only for ASEAN, but also for Asia and beyond. Combined with the government's supportive policies and the BOI's incentives, Thailand offers the ideal investment destination for a wide range of medical and healthcare service providers.

Successful Healthcare System

Thailand has already invested significant time and efforts into facilitating access to medical services and public healthcare. The proportion of government healthcare expenditure has risen rapidly from below 50% in 1995 to approximately 80% today. The country has also been operating a universal healthcare system since 2002, with the policy proving so successful that over 99% of the Thai population is now covered by public healthcare.

Thailand's large healthcare industry is supported by more than 1,000 public and 300 private hospitals. The services offered by these facilities are wide-ranging and cover a large number of treatments.

“ The public healthcare system is covering almost the entire population of Thailand ”

Treatments Offered in Thailand

Treatments Offered in Thailand

Cancer Treatments

Hip Replacements

Organ Transplants

Cardiology Testing

Cosmetic Surgeries

Heart Surgeries

Laser Eye Surgeries

Balloon Dilatation

Caesarean Birth

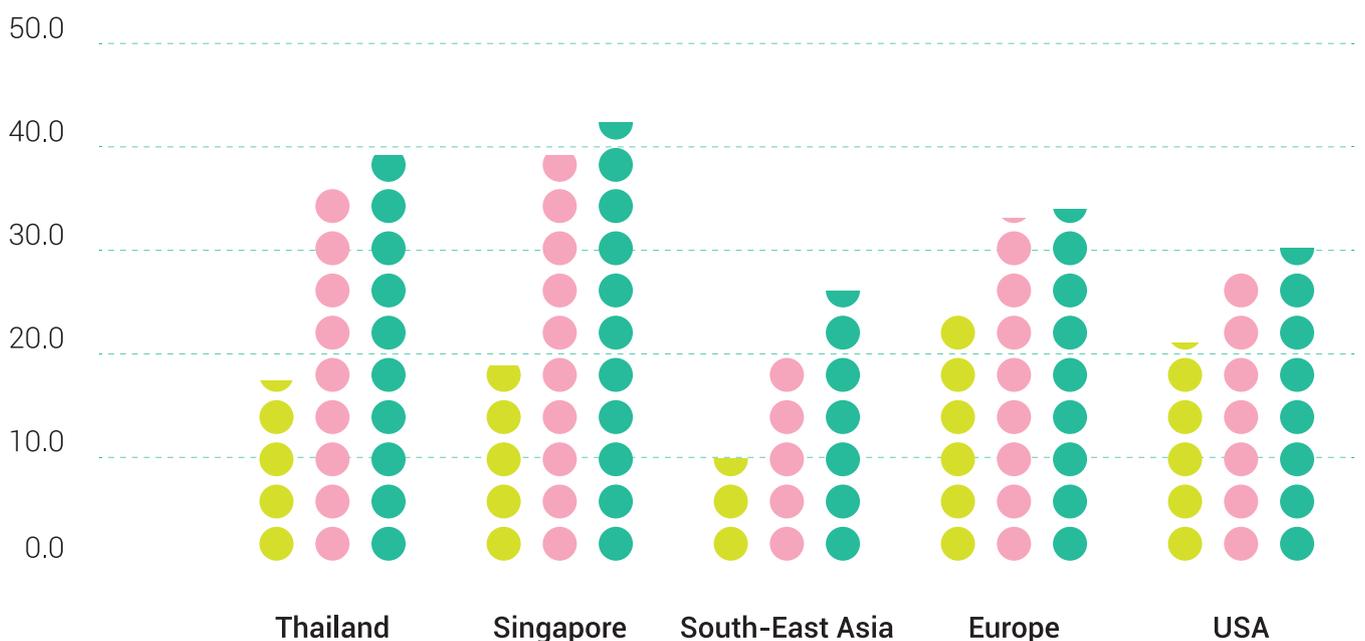
Thailand's Aging Society and Future Demand for Healthcare Services

Despite the already large healthcare sector, the rise of Thailand's aging population is driving further need for healthcare services in the years to come. Like many other countries, Thailand is heading towards an aging society. In relation to other countries in ASEAN, the proportion of citizens aged over 60 is one of the highest in the region. It is also forecasted that, by 2045, such proportion will exceed that of other regions such as Europe and the United States. It is unquestionable that **Thailand's aging society will further drive the domestic healthcare demands in the decades ahead.**



Share of Population Aged Over 60¹

● 2015 ● 2045 ● 2070



Source: ¹The World Bank: Thailand Economic Monitor - June 2016: Aging Society and Economy

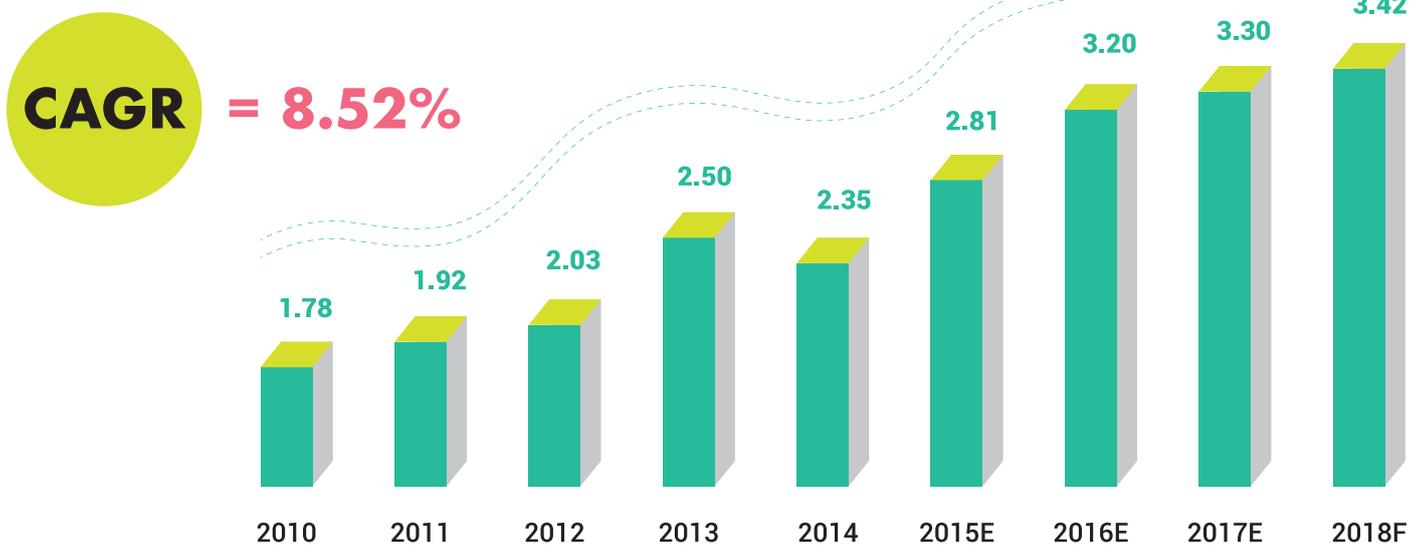
“ Thai hospitals take care of millions of foreign patients each year ”

Leading Medical Tourism Hub

Given a large number of state-of-the-art medical facilities, the number of foreign patients at Thai hospitals has been increasing at a rapid rate. With millions of people travelling to the Kingdom for medical treatment each year, Thailand boasts high-quality medical services and premium healthcare specialists. This high-level of demand from patients from abroad has provided the impetus for a range of technological advances, innovations, and clinical research studies. Such demand also means that there are countless for new medical companies that may be looking to enter the Thai market.

Foreign Patients at Thai Hospitals: 2010-2018

(In Million Persons)



Source: Business Sweden, The Swedish Trade & Invest Council, and Kasikorn Research



World-class Medical Facilities across the Country

To meet the demand for medical services from both within and outside the country, Thailand offers world-class medical facilities and takes pride in having the largest number of private hospitals anywhere in Asia. In addition, many hospitals and medical centers have accreditation from the Joint Commission International (JCI), the gold standard when it comes to global healthcare. As of December 2018, there are 64 organizations in Thailand that are JCI-accredited, spanning across every region of the country. Provinces in which JCI-accredited facilities are located include Bangkok, Nakhon Sawan, Chiang Mai, Chiang Rai, Khon Kaen, Udon Thani, and Phuket, among others.

Source: Ministry of Public Health

Example of Hospitals with JCI-Accreditation

BANGKOK



CHIANG MAI



โรงพยาบาลเชียงใหม่ ราม
CHIANGMAI RAM HOSPITAL



โรงพยาบาลกรุงเทพ
BANGKOK HOSPITAL
เชียงใหม่ • CHIANG MAI

NAKHON SAWAN



ศรีสวรรค์ นครสวรรค์
SRISAWAN HOSPITAL NAKHONSAWAN



KHON KAEN



โรงพยาบาลขอนแก่น ราม
Khonkaen Ram Hospital



PHUKET



โรงพยาบาลสิโรจ
Siroj International Hospital

UDON THANI



Top-quality Medical Care at Reasonable Prices

The number of medical tourists coming to Thailand has been increasing because of:

- **Reasonable costs of medical treatment**
- **High-quality medical and healthcare services**
- **Highly developed tourism infrastructure**
- **Global reputation for attentive and world-class services**

As a result of the high quality medical care and affordable price of medical treatment, Thailand is now seen as a top medical tourism destination within Asia.

According to the Medical Tourism Index (MTI), an index measured to assess the attractiveness of a country as a medical tourist destination, Thailand is ranked 18th overall and ranked 6th globally in the category of medical tourism industry.



Large Market for Medical Devices

Thailand's medical devices sector is the 8th largest in the Asia-Pacific region. In addition, there are an estimated 538 local medical device manufacturers in Thailand at the end of 2017. The market currently comprises of two different types of medical device i.e. consumable and diagnostic imaging devices such as basic medical products / patient aids, and the more sophisticated (and generally imported) devices. It is the latter whereby there is most potential for investment opportunities from foreign manufacturers. As an expanding market, Thailand's medical device industry offers significant investment opportunities for locals and foreigners alike.

Medical Devices ASEAN (MDA), the international exhibition and congress on medical devices, services and general healthcare, aims to position Thailand as the foremost healthcare and medical industry hub in ASEAN.

2016 MTI Global Ranking: 18th

Rank :



27th

Destination Environment

Rank :



6th

Medical Tourism Industry

Rank :



13th

Facilities and Services



Major Medical Device Manufacturers in Thailand



Company	Logo	Products
Nipro (Thailand)		Blood Tubing Set, PTA Balloon Catheter, Hypodermic Needles, and Syringe
Hoya Optics (Thailand)		Glass Molded Lenses, Preforms, Glass Polished Lenses and Glass Lenses Pressed Blanks
Kawasumi Laboratories (Thailand)		Hemodialysis, Plasmapheresis, Blood Banking and Transfusion, and Infusion Therapy
Reckitt Benckiser Healthcare Manufacturing (Thailand)		Antiseptic, Sore Throat Medicine, Ingestion Remedy, and Immune Support Supplement
Meditop		Diagnostic Product, Cardiovascular Product, Ventilator, Renal Product Group, and Tester
GE Medical Systems (Thailand)		EP Recording, Maternal-Infant Products, Ultrasound, Radiography, Mammography, and Ventilator
Eyebiz Laboratory (Thailand)		Ophthalmic Lenses
Emerald Nonwovens International		Single Use Medical Devices, Surgical Gown and Specialty Drapes
Infus Medical (Thailand)		Bone Cement Mixing, Blood Transfusion Products, Apheresis Products, and Drainage Products

Thailand as an Increasingly Important Export Base

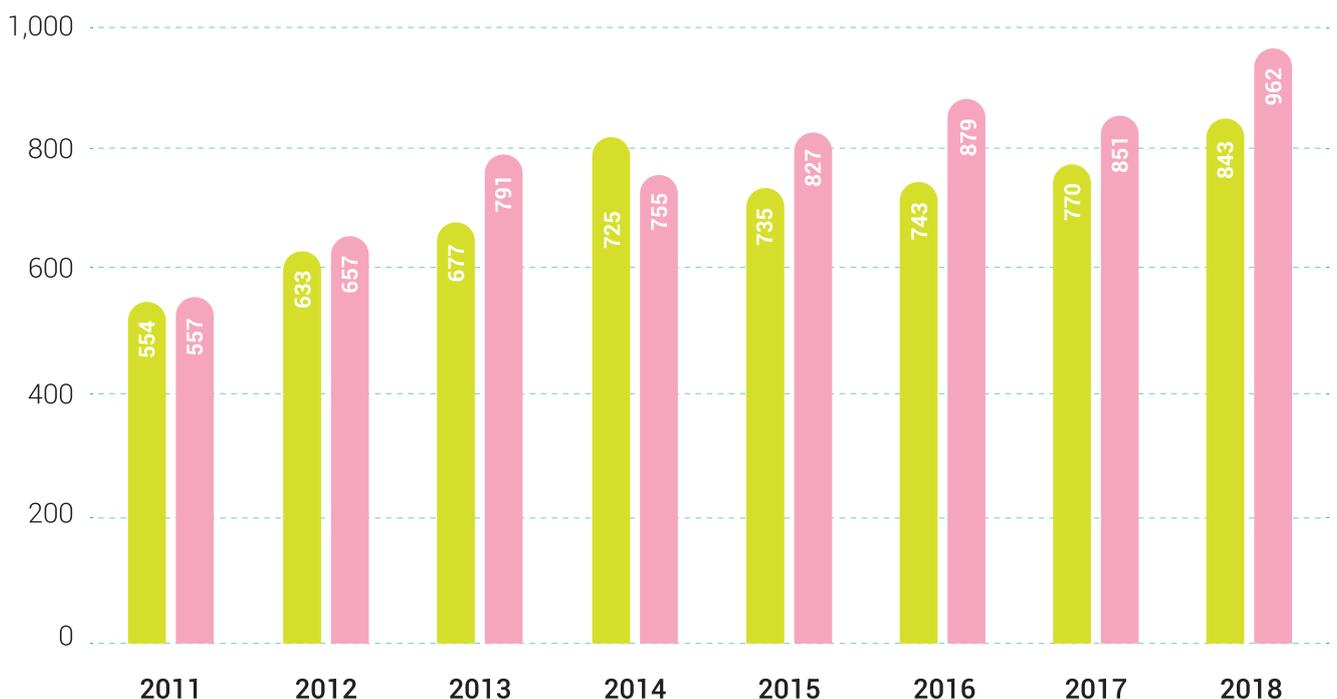
The production and distribution of medical devices both within and outside of Thailand continues to gain momentum. With a reputation as a provider for high quality and affordable healthcare, and as a regional medical hub, Thailand has become a natural market for medical devices. Thailand's import value of medical devices grew from 557 million USD to 962 millions USD in 2018. Over the same period, the export value grew from 554 million USD to 843 million USD. This trend reflects growing size of domestic market and the country's importance as an export base.

“ The medical device sector is one of the new S-curve industries. Thus, there will be support from the government in order to position Thailand to medical hub and a center for the exportation of medical devices and equipment to nearby CLMV and other ASEAN countries, which have seen a rising demand for such devices. Moreover, Thailand’s aging society also creates market opportunities for medical devices for the elderly. ”

– Mr. Preecha Bhanditvej,
President of Thai Medical Device Technology Industry Association

Thailand 's Medical Device Trade

Export
Import
Unit: Million USD



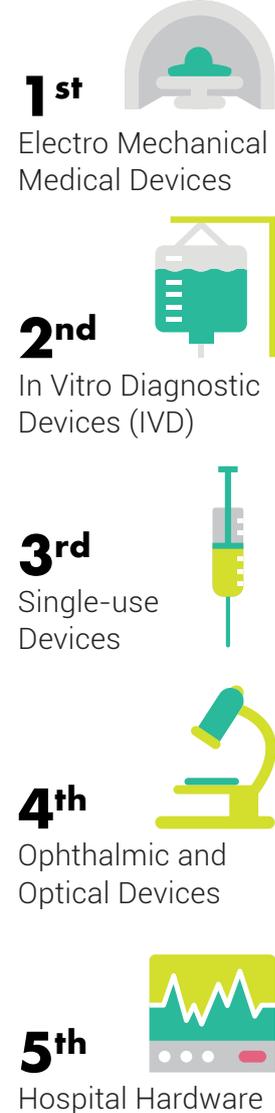
Source: International Trade Centre

TOP 5 Product Groups Exported and Imported by Thailand

Export 2018



Import 2018



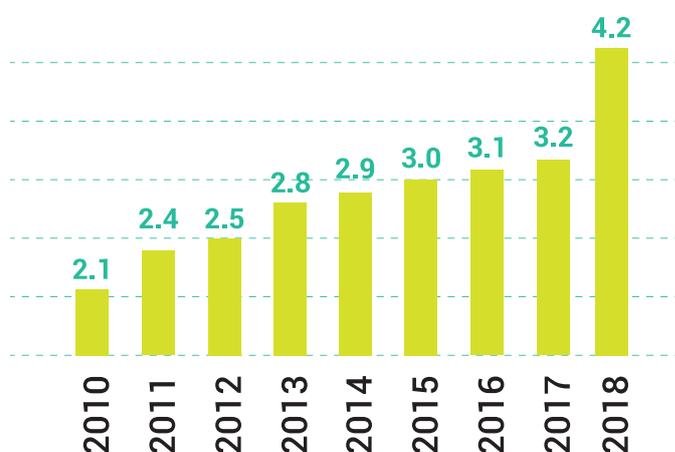
“ THERE IS MOST POTENTIAL FOR INVESTMENT OPPORTUNITIES IN SOPHISTICATED MEDICAL DEVICES, WHICH THAILAND STILL RELIES ON IMPORTS”



Growing Domestic Pharmaceutical Market

Thailand is one of the strongest-performing pharmaceutical markets in the Asia-Pacific region. With a positive economic forecast, the market is expected to grow at a compound annual growth rate of 6.2%. By 2020, the value of the pharmaceutical industry is expected to have doubled. This is primarily due to the increasing demand for pharmaceuticals as a result of Thailand's aging population. Other contributing factors include Thailand's Universal Coverage Scheme (UCS), and the continued growth of medical tourism. The pharmaceutical market now accounts for almost 20% of all domestic health expenditures, with the majority of this being distributed through Thailand's public and private hospital system.

Thailand's Pharmaceutical Spending (% of GDP)

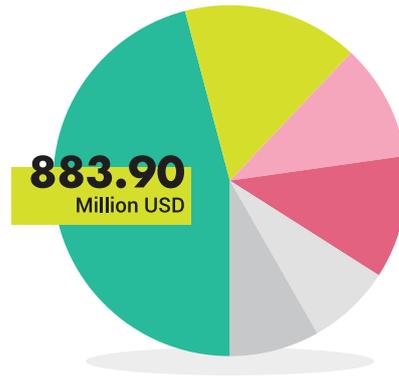


Source: Ministry of Foreign Affairs, Krungsri Research (September 2018), and Office of the National Economics and Social Development Board

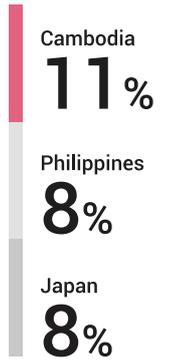
Thailand's Pharmaceutical Trade

Despite a large number of domestic manufacturers, Thailand relies significantly on imports of the pharmaceutical products. According to Krungsri Research (2018), the country imported pharmaceuticals worth of 2.93 billion USD; 16% of which from China and 12% of which from the United State of America. This reflects the fact that there is more room for enterprises wishing to produce and expanding their sales in the Thai market. As for the exports, the market is also sizable. Thailand's export value stood at 884 million USD, mainly to the neighboring countries.

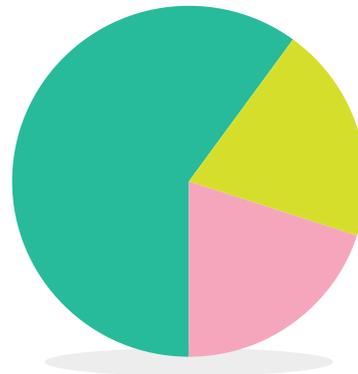
Production:



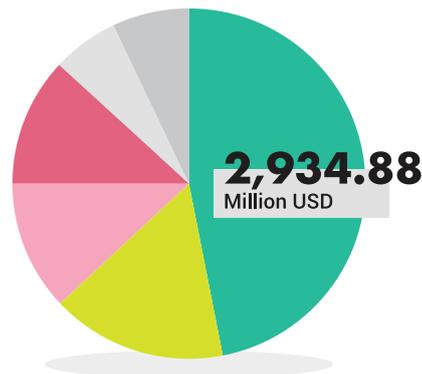
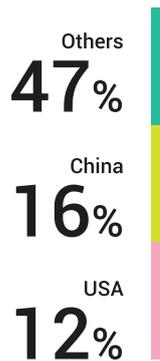
Export Market



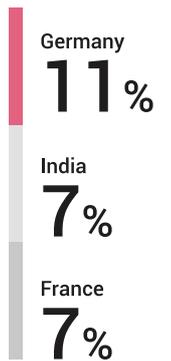
Domestic Use



Import:



Import Market



Source: International Trade Centre and Krungsri Research (data as of 2018)



Standardized Pharmaceutical Companies

As of March 2018, there were 194 manufacturers of conventional medicines in Thailand and approximately 90% of these were accredited with the Good Manufacturing Practice (GMP) standards. This quality standard ensures that all finished pharmaceutical products are produced to a universally acceptable quality. Thailand has been involved in some primary pharmaceutical research and development, namely the ongoing development of vaccines for HIV and various strains of flu.

Leading Pharmaceutical Companies in Thailand

Distributors



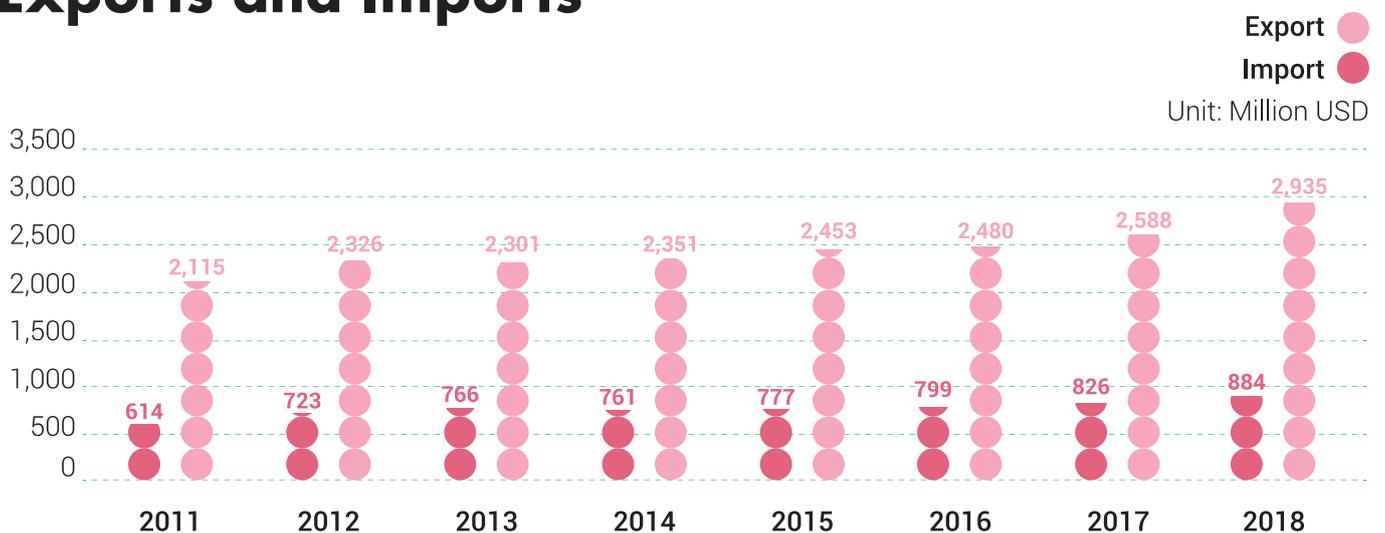
Manufacturers



Source: Compiled from Business Online, Government Pharmaceutical Organization and Krungsri Research as of 2018

Thailand's Pharmaceuticals Trade Statistics

Thailand's Pharmaceutical Exports and Imports



Top 5 Exported Products (2018)

1. Medicaments for Therapeutic or Prophylactic Purposes
2. Glutamic Acid
3. Wadding, Guaze and Bandages
4. Chemically Pure Sugar
5. Adhesive Dressings

Top 5 Imported Products (2018)

1. Medicaments for Therapeutic or Prophylactic Purposes
2. Medicaments Containing Antibiotics
3. Medicaments Containing Hormones of Steroids
4. Medicaments Containing Penicillin
5. Medicaments Containing Pro-vitamins or Vitamin

Government Initiatives

In late 2018, the Ministry of Science and Technology, in collaboration with the Ministry of Public Health and the Ministry of Education, has unveiled the 'Yothi Innovation District'. With an anticipated thirteen medical institutions and two universities offering medical courses, it is envisaged as an area that will soon make Thailand the centerpiece of medical innovations. The area will be able to treat approximately 8,000 patients per day and will have more than 7,000 beds available.

The Strategic Plan is expected to invite more than 100 private organizations to invest in innovation creation and in the improvement of public-private partnerships. In addition, there will also be a number of policies articulated to support new medical experiments, create startups, and build online databases.



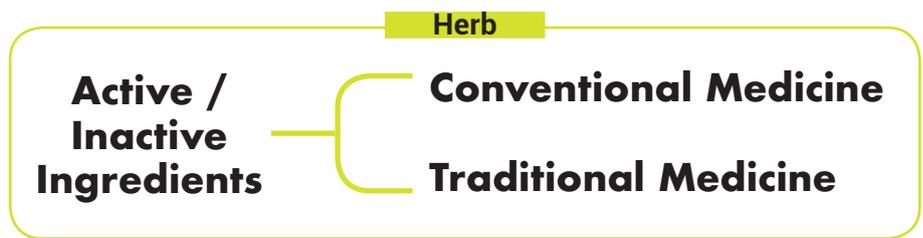
Source: Ministry of Science and Technology

Strong Supply Chain

Thailand is well placed to access the raw materials required for the production of various types of medical equipment. For example, the robust plastic-value chain, a core production component for various medical devices, is easily accessible and affordable. Also, considering the rising demand for medical equipment both regionally and domestically, the Thai medical industry is expected to grow further still.



Pharmaceutical Industry



Medical Food Industry



Medical Device Industry



Source: World Health Organization and SCB Economic Intelligence Center

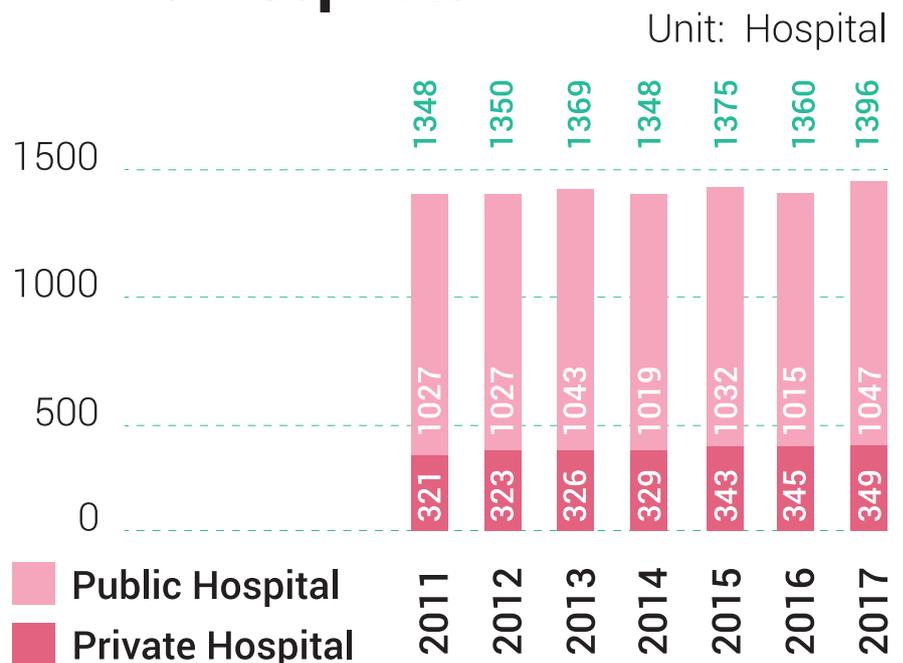


Abundance in Top-quality Hospitals and Certified Personnel

In addition to the abundance of world-class hospitals, Thailand also has an ever-increasing number of homegrown medical professionals. In 2017, there were a total of 222,757 Thai medical personnel, including physicians, dentists, pharmacists, nurses and technical nurses. In the same year, there were a further 2,762 medical licenses granted to new doctors. Thailand's growth in medical personnel and new doctors is approximately 3.7% of the compound annual growth rate when compared with the last 5 years.

“ In 2017, more than 200,000 medical personnel provided support and services to patients from Thailand and abroad ”

Number of Public and Private Hospitals



Source: Compiled from the Ministry of Public Health



Number of Healthcare Providers

Region	Medical Physician	Dentist	Pharmacist	Registered Nurse	Technical Nurse
Total	35,388	9,760	13,728	160,932	5,929
Bangkok	8,865	2,387	2,544	32,497	3,264
Central Region (exclude Bangkok)	8,941	2,431	2,858	38,239	672
Northern Region	5,627	1,632	2,311	27,594	376
North-eastern Region	7,703	2,063	3,208	39,246	1,219
Southern Region	4,252	1,247	1,807	23,356	398

Institutions with Technological Development Support

There are many institutions and organizations who support technological development and facilitate entrepreneurs in the medical industry



Thailand's Science Park
one-stop service center to assist companies engaged in scientific and technological research



National Science and Technology Development Agency
strengthen R&D and support necessary S&T human resource development



BIOTEC
provide basic infrastructure such as laboratories for healthcare services or modern biotechnology businesses



Ministry of Public Health
control over the production, import, export, sale or handling of medical device.



Food and Drug Administration
controls products in Thai market: foods, drugs, psychotropic substances, medical devices etc.



TCELS
promote and support innovations and knowledge related to life sciences products and services



National Innovation Agency
support and develop innovation system, in both the way of improvement and initiation to promote competitive enhancement

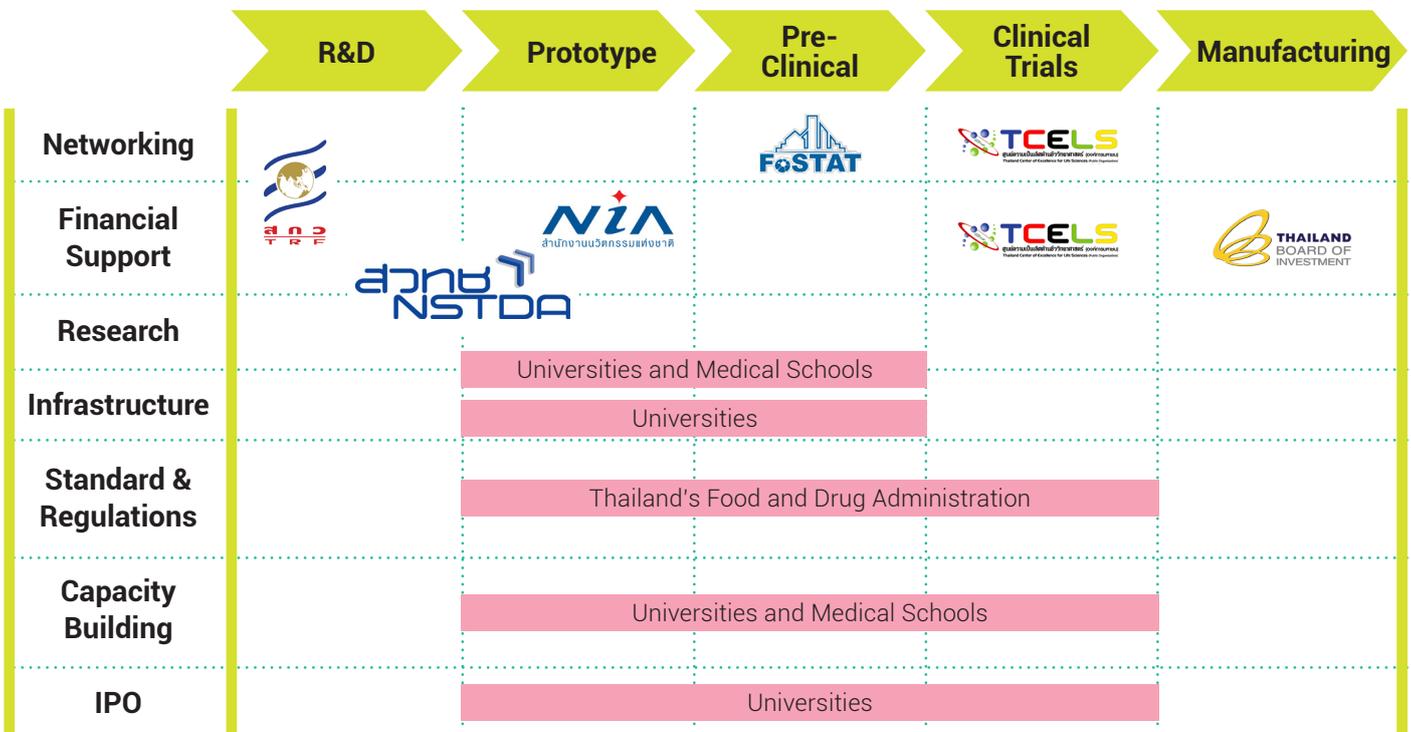


THAIMED
coordinate with the government and the private sector to develop the medical device industry

Leading in Clinical Trial Research

Thailand is devoted to promoting the execution of clinical studies in compliance with the standards set by the International Conference on Harmonization-Good Clinical Practice (ICH-GCP). With organizations and research institutions supporting the development and testing of drugs and technological breakthroughs, there is clear potential for continued growth in research and development in Thailand.

Thailand's Clinical Trial Process and Components



Example of Clinical Trial Centers in Thailand¹



Source: ¹ClinicalTrials.gov and Thailand Center of Excellence for Life Sciences

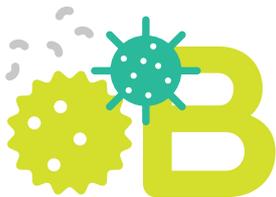
Thai-made Vaccines

With the high-caliber of its researchers and vaccine developers as well as the substantial number of agencies working in the field of vaccine research and development, Thailand has established itself as the leading developer of vaccines in ASEAN.



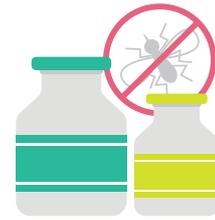
Cocktail Vaccine (5-in-1),
developed by NSTDA in collaboration
with BIO-NET Asia

- The 5-in-1 vaccine covers diphtheria, tetanus, pertussis, hepatitis B and meningitis in one shot



Haemophilus influenzae type b (Hib) Vaccine,
developed by BIO-NET Asia

- a vaccine developed to prevent the bacteria responsible for severe pneumonia, meningitis and other invasive diseases



Dengue Vaccine,
developed by NSTDA

- a vaccine against four strains of the dengue virus, administered as a three-dose series at six-month intervals



HIV Vaccine,
developed by the Vaccine Trial Centre,
Mahidol University

- currently in Phase III of development

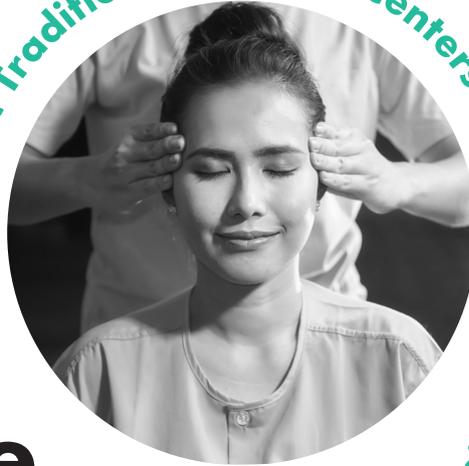


Conducive Policy for Investment

In addition to a continuous attempt to promote a variety of manufacturing activities such as those related to medical devices, pharmaceutical products and medical food and supplements, the Thai government has placed greater emphasis on the promotion of medical services. This is part of an initiative to drive Thailand towards becoming the No. 1 medial hub of Asia with a full range of first-class services.

To this end, the BOI has provided incentives to stimulate investment in four additional areas of medical services including Thai traditional medical centers, specialty medical centers, hospitals, and medical transportation services.

Thai Traditional Medical Centers



Specialty Medical Centers



Hospitals



Medical Transportation Services



BOI Investment Incentives

The BOI offers a wide range of incentives for investment projects that meet national development objectives. The tax incentives include the exemption of corporate income tax, together with the exemption of import duty on machinery required for the project and on raw or essential materials used in manufacturing exported products. As for the non-tax incentives, the BOI also grants the permission to bring in expatriates, the permission to take or remit foreign currency abroad, and the permission to own land for use in the project.



Manufacturing Activities

Eligible Activities	Group	Basic Incentive
Manufacture of high-risk or high-technology medical devices, (e.g. x-ray machine, MRI machine, CT scan machine and implants) or medical devices that are commercialized from public sector research or collaborative public-private sector research		
<ul style="list-style-type: none"> In case projects include R&D and innovation 	A1	8 years CIT exemption (no cap)
<ul style="list-style-type: none"> In case projects not include R&D and innovation 	A2	8 years CIT exemption
Active pharmaceutical ingredients	A2	8 years CIT exemption
Manufacture of other medical devices (except for medical devices made of fabrics or fibers)	A3	5 years CIT exemption
Manufacture of medicine	A3	
Manufacture of medical devices made of fabrics or fibers, e.g. gowns, drapes, caps, face masks, gauze and cotton wool	A4	3 years CIT exemption

Note: Exemption of import duty on machinery and exemption of import duty in raw or essential materials used in manufacturing exported products

Source: Thailand Board of Investment



“ The Thailand Board of Investment has been generous to us over our long history.

Their incentives make the investment decisions in this country even more attractive ”

*– Mr. Shinsuke Yuasa,
President of Thai Otsuka P*

Medical Services

Eligible Activities	Group	Basic Incentive
Specialty medical centers	A2	8 years CIT exemption
Hospitals *	A2	
Traditional Thai medical public services	A3	5 years CIT exemption

*** Eligible areas include only:**

1. 20 provinces with lowest per capita income
2. Promoted border provinces in Southern Thailand
3. Special Economic Development Zones



**THAILAND BOARD
OF INVESTMENT**

www.boi.go.th

