Explore healthcare opportunities in Belt and Road countries – Thailand
November 2017
## Agenda

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Overview of Thailand economics
**Thailand: At a glance**

- **Population**: 68 million
- **Surface area**: 513,120 km²

**Languages**
Thai, English, ethnic and four regional dialects
English is widely used in Bangkok and vicinities

**Government**
Constitutional monarchy
Source: Thailand Board of Investment

**Ease of doing business in 2017**
46th in the world (moved up from 49th in 2016)
Source: World Bank — Doing Business

**Capital**
Bangkok

**Bangkok and vicinities population**
9.3 m

**2016 ASEAN Annual GDP Growth (%)**

- Indonesia: 5%
- Cambodia: 7%
- Malaysia: 4.2%
- Myanmar: 6.3%
- Philippines: 6.8%
- Thailand: 3.2%
- Vietnam: 6.2%
- Singapore: 2%

**Our GDP** $400 bn

**International visitors** '000 visitors

- 2010: 15,936
- 2011: 19,230
- 2012: 19,230
- 2013: 22,354
- 2014: 26,547
- 2015: 24,810
- 2016: 29,923

Source: World Bank

**Thailand’s GDP Projection**

- 2016: 3.2%
- 2017: 3.5%
- 2018: 3.6%

Source: World Travel & Tourism Council, Thailand’s Automotive Institute (2016), BMI

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Source: CIA World factbook

Source: IMF, World Economic Outlook database

Source: Thailand Board of Investment

Source: World Bank — Doing Business

Source: World Travel & Tourism Council, Thailand’s Automotive Institute (2016), BMI
Thailand: At a glance

Thailand’s Trade

- Export reaches a multi-year high, showing a strong international demand for Thai goods.
- Import is also experiencing growth, but may be affected strongly by the sluggish domestic consumption due to the high level of household debt and weak jobs growth.

Source: Thailand Board of Investment

Top exports 2017

<table>
<thead>
<tr>
<th>% of total export</th>
<th>Value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Auto parts</td>
<td>25%</td>
</tr>
<tr>
<td>Computers &amp; components</td>
<td>17%</td>
</tr>
<tr>
<td>Rubber products</td>
<td>10%</td>
</tr>
<tr>
<td>Plastic products</td>
<td>8%</td>
</tr>
<tr>
<td>Electrical circuits</td>
<td>8%</td>
</tr>
</tbody>
</table>

Source: BangkokPost

Travel & Tourism

- Looking to slowly pick up growth after the 2016 zero-dollar tours’ crackdown, Thailand’s 2016 Travel & Tourism is valued at USD36.7bn (9.2% of the country GDP). It is expected to grow by approximately 9.3% by the end of 2017 and 6.7% pa toward 2027.

Automotive

- In 2016, Thailand automotive industry is the 6th largest commercial vehicle manufacturer in the world. It has a combine production of 1.94 million units and the sector itself makes up approximately 12% of the country’s GDP.

Healthcare

- Health expenditure is a promising industry that is constantly growing. The sector is value at 6.21% of Thailand’s GDP and is expected to grow at approximately 6% in value y-o-y toward 2021. It is anticipated that the growth will be driven by the private sector.
Foreign investment in Thailand

Thailand: Top 20 ranking for FDI attractiveness

<table>
<thead>
<tr>
<th>Total investment</th>
<th>Total foreign investment</th>
</tr>
</thead>
<tbody>
<tr>
<td>612 projects</td>
<td>371 projects</td>
</tr>
<tr>
<td>8.75 billion</td>
<td>3.57 billion</td>
</tr>
</tbody>
</table>

Foreign investment by target sector
Jan — June 2017, in USD

- **Digital**
  - 54 projects
  - 9.59 m

- **Electrical & electronic**
  - 32 projects
  - 666.11 m

- **Petrochemical**
  - 23 projects
  - 766.72 m

- **Medical**
  - 7 projects
  - 62.66 m

Source: Board Of Investment Thailand as of September 2017, Bangkok Post
Thailand 4.0 and the healthcare industry

Thailand 4.0 encourages the development of technology in several industries. One of the industry is healthcare. The Ministry of Public Health have create a roadmap as guideline toward making Thailand the medical Hub of ASEAN within 2025.

**Roadmap**

- **1-5 years**
  - Effective production of generic drugs
  - Deploy disability robot
  - Promote “Health Tourism”
- **5-10 years**
  - Use standardised medical robot
  - Use automated diagnostic devices
  - Develop new biomaterial for cancer and allergies
- **10-15 years**
  - Use automation to aid surgery
  - Develop targeted therapy
  - Implement implanted-device

**Thailand’s Healthcare Industry Size Target**

Source: Ministry of Public Health
Overview: Demographic

Thailand’s Demographic in 2010 & 2016

Ageing Population

Thailand’s demographics in 2010 and 2016 show that ageing has resulted a larger proportion of older people between the age of 45 and above in comparison to the other age. This results from:

- New generation of Thai-Chinese decent having less children
- Marriage at later age
- More divorces before having children
- Women become more independent

Why does ageing matter?

- Expected economic growth
- Demand for healthcare
- Dependency ratio
- Productivity growth
- Social security tax

Source: PSC, Research Reports
Thailand healthcare industry
Overview: Healthcare Expenditure

Current Situation

- **2016 Spending as % of GDP**: 6.2%
- **2016 Increase in Spending**: 6.08% y-o-y
- **2016 Government Spending**: 86.78%

Key drivers

**Encourage healthcare expenditure:**
1. Higher proportion of old people in need of healthcare.
2. Increase in nation average disposal income.
3. Government initiative on promoting healthcare.

**Discourage healthcare expenditure:**
2. Competitions within the region.

- Thailand’s healthcare market was valued at USD26.97bn with a 6.08% y-o-y growth in 2016.
- The Nation Health Security Office have reported a reduction in the country’s healthcare budget for the year 2017.
- An increase in foreign patients from the medical tourism scheme and the fast ageing population is expect to maintain growth in this industry.
- The outlook for this sector will be focus on new regulations and policy’s under way which may significantly affect the private sector spending.

Source: BMI, WHO
Overview of the sector

Healthcare expenditure, total (% of GDP)

Source: WHO
Overview of the sector

Number of Healthcare Facilities and Thailand

- Public primary care facilities: 64%
- Hospital: 8%
- General clinic: 29%
- Private: 2%

Source: Bureau of Policy and Strategy, MOPH (October 2015)

Share of Private Hospital (2014)

By hospital:
- Large: 27.7%
- Medium: 72.6%
- Small: 17.6%

By bed:
- Large: 27.7%
- Medium: 69.2%
- Small: 3.2%

Source: MOPH, compiled by Krungsri Research

Note: Small size: 1-30 beds
Medium size: 31-200 beds
Large size: more than 200 beds

Source: BAY Research Thailand industry outlook 2016 - 2018: Private hospital industry
Overview of the sector

Private hospitals are mainly in Bangkok. The competition will be higher as private hospitals have to compete with other private players as well as public hospitals that offer the same level of services as the privates’

<table>
<thead>
<tr>
<th>2015</th>
<th>No.</th>
<th>%</th>
<th>Growth</th>
<th>Beds</th>
<th>%</th>
<th>Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangkok</td>
<td>104</td>
<td>30.3%</td>
<td>2.0</td>
<td>13,935</td>
<td>40.2%</td>
<td>-1.9</td>
</tr>
<tr>
<td>Other regions</td>
<td>239</td>
<td>69.7%</td>
<td>5.3</td>
<td>20,729</td>
<td>59.8%</td>
<td>3.0</td>
</tr>
<tr>
<td>Total</td>
<td>343</td>
<td>100%</td>
<td>4.3</td>
<td>34,664</td>
<td>100%</td>
<td>1.0</td>
</tr>
</tbody>
</table>

Source: Ministry of Public Health, 2016
Overview of the sector

The shortage of specialists is the main challenges for healthcare services in tier 2 cities. The shortage affects directly for sophisticated medical devices as there are insufficient resources to operate them.

Number of physicians in Thailand by specialties, 2011

Top three specialist shortage in Thailand

Source: Solidiance, The future of Thailand’s healthcare industry in tier 2 cities: Outlook 2015 - 2020,
Overview of the sector

Changes in the Middle east countries’ policies means growth from international patients will come from growing CLMV market

Percentage of foreign patients receiving medical services from private hospitals in Thailand

Source: Division of International Healthcare, 2012
Overview of the sector

Thailand’s edge in the healthcare and well-being industry lies in our geographical location, and abundance natural resources and our experiences in the services industry.

Three main segments for medical hub policy

Source: The Board of Investment of Thailand (BOI)
Overview of the sector

Governmental clinics and hospitals have a very **bed occupancy rate (BOR) estimated at 80%** causing long wait time and other inconveniences. This represents market opportunities for private hospitals to fill the void created by the inadequacy of public health facilities by providing the needed services.

**Bed Occupancy Rate (BOR)**

Source: BAY Research Thailand industry outlook 2016 - 2018: Private hospital industry
Overview of the sector

In the recent years, the Middle eastern countries have changed their healthcare policy to encourage patients to receive treatment domestically. However, Thailand still continues to attract medical tourist from other countries including CLMV, resulting in continuous growth.

Private hospital receiving revenue mainly from foreign patients

Private hospitals where its patients are mainly foreigners see higher growth than those serving Thai patients

Revenue from foreign patients, especially medical tourists, grow continuously

Key markets: Myanmar, Middle East, Japan, the United States

Source: Kasikorn research center
Overview of the sector

Thailand has a national development plan to become a medical hub since 2004. And despite the growing competition in the region to attract this group of tourist, and decreasing number of Middle eastern visitors, previously mentioned, the country still has other supporting key factors.

Comparison of medical treatment costs

<table>
<thead>
<tr>
<th>Procedure</th>
<th>United States</th>
<th>India</th>
<th>Thailand</th>
<th>Singapore</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coronary Angioplasty</td>
<td>28,200 $</td>
<td>5,700 $</td>
<td>4,200 $</td>
<td>13,400 $</td>
</tr>
<tr>
<td>Heart Bypass</td>
<td>123,000 $</td>
<td>7,900 $</td>
<td>15,000 $</td>
<td>17,200 $</td>
</tr>
<tr>
<td>Hip Replacement</td>
<td>40,364 $</td>
<td>7,200 $</td>
<td>17,000 $</td>
<td>12,000 $</td>
</tr>
<tr>
<td>Gastric Bypass</td>
<td>25,000 $</td>
<td>7,000 $</td>
<td>16,800 $</td>
<td>13,700 $</td>
</tr>
<tr>
<td>Hysterectomy</td>
<td>15,400 $</td>
<td>3,200 $</td>
<td>3,650 $</td>
<td>10,400 $</td>
</tr>
<tr>
<td>Lasik (2 eyes)</td>
<td>4,000 $</td>
<td>1,000 $</td>
<td>2,310 $</td>
<td>3,800 $</td>
</tr>
<tr>
<td>Dental Implant</td>
<td>2,500 $</td>
<td>900 $</td>
<td>1,720 $</td>
<td>2,700 $</td>
</tr>
<tr>
<td>Breast Implant</td>
<td>6,400 $</td>
<td>3,000 $</td>
<td>3,500 $</td>
<td>8,400 $</td>
</tr>
</tbody>
</table>

Source: medicaltourism.com (2015)

Medical-related travel visa

- The stay is lengthened from 30 to 90 days (extended from 30).
- Each patient is allowed to bring up to four companions.
- Visa is granted to:
  1) Patients and families from the countries in the Gulf Cooperation Council (GCC)
  2) Scandinavian countries
  3) Cambodia, Laos, Myanmar, Vietnam (CLMV) and China.
  4) Japan, Bhutan, Bangladesh, Sri Lanka and Nepal

Source: BAY Research Thailand industry outlook 2016 - 2018: Private hospital industry, Bangkok Post

An extension for long-stay visa

- Period: 1 year to 10 years
- Who: senior visitors (aged over 50 years) of 14 countries including:
  1. Australia
  2. Canada
  3. China
  4. Denmark
  5. Finland
  6. France
  7. Germany
  8. Italy
  9. Japan
  10. Norway
  11. Sweden
  12. Switzerland
  13. United Kingdom
  14. United States for America
Overview of the sector

As a result of overcrowded public hospital and increasingly expensive private hospitals, the patients’ behaviours have changed – more dependent on pharmacies and other healthcare alternative.

Factors influencing decision on medical services

- 61% Receive healthcare benefit
- 60% Travelling convenience
- 52% Reputation/creditability of hospitals and doctors

An average amount spent at pharmacies

150-200 baht/visit

Pharmacies are the first choice for those with common illness

- 32% Pharmacies
- 16% Private hospitals
- 25% Public hospitals
- 13% other**
- 70% of those who buy medicines from pharmacies do not have private hospital welfare (Group insurance/employee benefits)

**Public health centre/not receiving treatment

Source: Kasikorn Research Center
**Key segments**

- **Medical tourists**
  - Key markets: Myanmar, Japan, Middle East, Europe
  - New high growth market: ASEAN, China

- **Expats residing in Thailand**
  - It is expected that ASEAN Economic Community (AEC) will attract foreigners, especially from Japan, South Korea, the US and Europe, many of which will be accompanied by their families

- **The elderly**
  - An increasing number of aging population means more opportunities for nursing home.

- **Alternative medicine/traditional medicine**
  - Health-conscious trend opens up more opportunities for fitness centre, annual health check up packages, spa, healthy food and supplement

Source: Government Savings Bank research
Opportunities going forward
### Rapid aging population

#### Percentage of Thai population by age group

<table>
<thead>
<tr>
<th>Region</th>
<th>2012</th>
<th>2015</th>
<th>2025</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangkok</td>
<td>8.6%</td>
<td>11.9%</td>
<td>18.6%</td>
</tr>
<tr>
<td>Central (excl Bangkok)</td>
<td>10.8%</td>
<td>13.1%</td>
<td>17.9%</td>
</tr>
<tr>
<td>North</td>
<td>12.1%</td>
<td>16.0%</td>
<td>23.9%</td>
</tr>
<tr>
<td>Northeast</td>
<td>9.6%</td>
<td>14.7%</td>
<td>21.4%</td>
</tr>
<tr>
<td>South</td>
<td>10.4%</td>
<td>13.2%</td>
<td>17.8%</td>
</tr>
</tbody>
</table>

Source: Solidiance, The future of Thailand’s healthcare industry in tier 2 cities: Outlook 2015 — 2020

### Total percentage of older population in Thailand

<table>
<thead>
<tr>
<th>Region</th>
<th>2012</th>
<th>2022</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bangkok</td>
<td>15%</td>
<td>19%</td>
</tr>
<tr>
<td>Central (excl Bangkok)</td>
<td>19%</td>
<td>20%</td>
</tr>
<tr>
<td>North</td>
<td>19%</td>
<td>16%</td>
</tr>
<tr>
<td>Northeast</td>
<td>16%</td>
<td>13%</td>
</tr>
<tr>
<td>South</td>
<td>16%</td>
<td>68%</td>
</tr>
</tbody>
</table>

### Thailand will become an aged society by 2022

As the number of senior citizen is expected to account for 19% of the total population, Thailand will become an aged society by 2022.

### Implication

- Demand for healthcare services is expected to grow as aging population will increase the demand for both medical treatment and care.
- Treatment and care for chronic diseases will be among the primary focus for maintaining elder citizens.
- Aging population boom puts pressure for the government to plan for facilitating the change by improving medical facilities and personal in public hospitals.
Urbanisation — demands for facilities in tier 2 cities

Urbanisation in Tier 2 cities boosts the purchasing power of local people. Urban population earns 71.9% more than those in rural area.

Implication

- Urbanization outside Bangkok is one of the key drivers for private hospitals investment.
- Higher purchasing power consumers to request better and faster healthcare services.
- People are more willing to pay extra for similar healthcare services in private hospitals as services come faster and with better standard.

Source: Thai BOI, Solidiance, The future of Thailand’s healthcare industry in tier 2 cities: Outlook 2015 - 2020
# Urbanisation — demands for facilities in tier 2 cities

<table>
<thead>
<tr>
<th>Region</th>
<th>Population per doctor</th>
<th>Population per dentist</th>
<th>Population per pharmacist</th>
<th>Population per professional nurse</th>
<th>Population per technical nurse</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total</td>
<td>2,035</td>
<td>9,352</td>
<td>5,317</td>
<td>436</td>
<td>9,716</td>
</tr>
<tr>
<td>Bangkok</td>
<td>5,458</td>
<td>2,769</td>
<td>205</td>
<td>1,671</td>
<td></td>
</tr>
<tr>
<td>Central (excl Bangkok)</td>
<td>1,939</td>
<td>9,145</td>
<td>4,655</td>
<td>451</td>
<td>16,083</td>
</tr>
<tr>
<td>North</td>
<td>2,342</td>
<td>8,801</td>
<td>5,623</td>
<td>453</td>
<td>21,418</td>
</tr>
<tr>
<td>Northeast</td>
<td>3,207</td>
<td>12,732</td>
<td>7,599</td>
<td>603</td>
<td>17,309</td>
</tr>
<tr>
<td>South</td>
<td>2,488</td>
<td>8,728</td>
<td>5,521</td>
<td>406</td>
<td>19,545</td>
</tr>
</tbody>
</table>

Source: Ministry of Public Health

### Doctor per patients

- **World standard**: 1: 1,500
- **Thailand**: 1: 2000

Source: Thai BOI, Solidiance, The future of Thailand's healthcare industry in tier 2 cities: Outlook 2015 - 2020
**Alternative medicine**

The Government sets its goal to provide more access to quality alternative healthcare and traditional medicine.

**Investment budget for alternative medicine**

R&D as part of Thailand 4.0

<table>
<thead>
<tr>
<th>Year</th>
<th>Budget (Million baht)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2017</td>
<td>500</td>
</tr>
<tr>
<td>2018</td>
<td>750</td>
</tr>
<tr>
<td>2019</td>
<td>1,000</td>
</tr>
<tr>
<td>2020</td>
<td>1,250</td>
</tr>
<tr>
<td>2021</td>
<td>1,500</td>
</tr>
</tbody>
</table>

**R&D budget**

- The R&D budget are aimed for *medical and marketing purposes* as well as to drive a research on *herbal plants*.

**Policy on Thai herb products**

- The Government wants to develop the quality of Thai herbal products to open up new opportunities for the people and to promote Thailand as a major centre for herbal products in the world.
- The Government has a policy to support the research and development of *herbal plants* to be processed into high-quality goods.
- The policy will add value to Thai herbal products and expand them to the *world market*, especially *ASEAN*. The Thai herbal market is growing by 15-20 percent a year, valued at **48 billion baht** annually.

Source: Thai Traditional Medicine Research Institute (TTMRI) and The Government Public Relations Department
Medical equipment

Thailand’s medical device market has continued to thrive due to several key factors:

- The growing influx of medical tourists
- The rise in the standard of living of Thai citizens
- The government’s continued efforts to develop Thailand into a leading medical hub

Lead to Innovation

- Wide variety of medical devices are being manufactured domestically
- A substantial number of high-grade and sophisticated medical devices are being imported to meet the rising demand
- As such, there are tremendous opportunities for new investment in Thailand with respect to manufacturing high-end medical devices.

Source: The Board of Investment of Thailand (BOI)
Potential investment opportunities
The Board of Investment in Thailand (BOI) investment scheme

BOI offers a wide range of tax and non-tax incentives for projects that meet national development objectives.

<table>
<thead>
<tr>
<th>Group</th>
<th>Eligible activities</th>
<th>Incentives</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Corporate income tax exemption</td>
</tr>
<tr>
<td>A1</td>
<td>Biotechnology:</td>
<td>8 years without cap</td>
</tr>
<tr>
<td></td>
<td>• R&amp;D activity and/or manufacturing of biopharmaceutical agents</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Projects with R&amp;D and/or manufacturing of diagnostic kits for health, agriculture, food and environment</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Manufacturing of high-risk or high-technology medical devices that involve R&amp;D and innovation</td>
<td></td>
</tr>
<tr>
<td>A2</td>
<td>Manufacture of:</td>
<td>8 years</td>
</tr>
<tr>
<td></td>
<td>• Medical food and supplements</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• High-risk or high-technology medical devices that do not involve R&amp;D and innovation</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Medical devices that are commercialized from public sector research or collaborative public-private sector research</td>
<td></td>
</tr>
<tr>
<td>A3</td>
<td>Manufacture of other medical devices (except for medical devices made of fabrics or fibers)</td>
<td>5 years</td>
</tr>
<tr>
<td>A4</td>
<td>Manufacture of medical devices made of fabrics or fibers</td>
<td>3 years</td>
</tr>
<tr>
<td>B1</td>
<td>Projects in health rehabilitation centers</td>
<td>No</td>
</tr>
</tbody>
</table>

These activities also receive the following non-tax incentives:

1. Permit to bring in expatriates
2. Permit to take or remit foreign currency abroad
3. Permit to own land

Source: The Board of Investment of Thailand (BOI)
Thank you