

EIBN Sector Reports



Healthcare



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Methodology

The goal of this market study is to provide an overview of the potential of Indonesia's healthcare equipment and medical device industry. This desk research highlights the opportunities for European companies, and contains the industry characteristics (e.g., market size, growth potential), the structure of the market, key stakeholders and major providers, future trends, regulations, and existing challenges.

While preparing this report, EIBN made use of a variety of literature, data sources and methods. General information about the healthcare equipment and medical device market was gathered from publicly available sources: news articles, official company websites, publications (e.g., the U.S. Commercial Service and Spire Research and Consulting), the Ministry of Health of the Republic of Indonesia, and the World Health Organization. In addition, we have also interviewed some local market stakeholders.

When the latest official data was not yet available, we made use of the most recent data on hand. For example, when data and figures were still unavailable for 2014, we instead used data from the years 2013 and 2012. Also, sources are mentioned to provide insight into where the data was retrieved from.

Executive Summary

The purpose of this Sector Report is to provide an overview of the healthcare equipment and medical device market in Indonesia, and to shine light on potential business opportunities for European companies. Indonesia's healthcare equipment and medical device market has a total market value of US\$1 billion with expected future annual growth rates of more than 10%. The size of the total healthcare industry in Indonesia was US\$23 billion in 2012, and is expected to double by 2020 (to US\$50 billion).

Indonesia's healthcare industry provides profitable opportunities for European companies. For the healthcare equipment and medical device market, attractive subsectors include dental equipment, medical equipment, and laboratory equipment industries. The dental care market is showing strong annual growth rates, because of Indonesia's growing middle and upper class and the increased awareness. Since domestic companies produce almost solely medical furniture, lucrative products for European companies are related to scaling and polishing, bleaching, and orthodontics.

Indonesia's medical equipment market provides similar future prospects: strong year-on-year growth and few existing local manufacturers. The implementation of the National Health Insurance System will lead to a strong increase in the need for advanced medical devices, especially related to surgical equipment, diagnostics, and medical imaging equipment.

The demand for clinical laboratory and diagnostics equipment in Indonesia depends to a large extent on the incidence of diseases related to circulatory problems, infections and parasites, and respiratory problems. These are all significant causes of death. Lucrative opportunities are found in, among others, test kits for infection diseases and diabetes, and for instruments for clinical chemistry, hematology and immunology.

European companies can also exploit growing demands in health IT, health infrastructure, food and health supplements, household healthcare devices and Islamic medicines. The Ministry of Health is planning to include e-Health solutions in existing health systems to strengthen and support quality services. As regards health infrastructure, overseas companies could assist in the design, architecture and the interior of advanced Indonesian hospitals and health facilities. Food supplements are also growing in popularity, as many Indonesians use them for preventing diseases and supporting a healthier lifestyle.

Noted changes in lifestyle have led to an increasing number of Indonesian households that are buying healthcare devices for personal use, such as digital blood pressure meters and digital insulin tests. These devices make it possible to do medical self-checks at home. Finally, in a country that has the world's largest Muslim population, there are lucrative opportunities for providers able to provide specific products, such as medicines that do not contain alcohol and vaccines without any trace of pig genetics.

Prior to entering the Indonesian healthcare market, European companies should find a trustworthy local business partner. It is mandatory to have an agent and/or distributor in order to serve the Indonesian market. Attending conferences and events is a good strategy for meeting equipment importers, agents and distributors. The distribution of nearly all medical equipment and supplies requires a license from the Indonesian Ministry of Health, which needs to be obtained before importing. There are no restrictions for importing medical equipment, except that the government prohibits, in general, the import of used equipment. During government procurements, there is a preference to use goods with local content to stimulate domestic sourcing. Indonesian import duties on medical equipment can rise to up to 30% for medical equipment and all imported medical equipment is subject to a 10% value added tax. European companies should be aware of the shortage of qualified medical personnel in Indonesia, which means there are not always enough skilled staff to operate, maintain and calibrate the devices. With that in mind, overseas companies may have to train users and related staff members as part of the after-sales service.

In conclusion, Indonesia's healthcare equipment and medical device market is a promising industry with many valuable opportunities for European companies. This is grounded in strong annual growth rates, changing demographic and consumption patterns, the implementation of the National Health Insurance System, and a lack of domestic suppliers. However, challenges and weaknesses still remain, such as the requirement to have a local partner and the lengthy registration process.

Introduction

Today's globalizing world is facing an aging population. Rising life expectancy and falling birth rates will create many opportunities, but also challenges, in the worldwide healthcare industry in the coming years. Demographic changes and changing consumption patterns will have a serious impact on demand for health care. Many companies have already intensified their presence and activities in international markets, especially in emerging markets in Asia (where roughly 60% of the world's population lives), including Indonesia. The health of Southeast Asia's largest country has been influenced by strong economic growth, which has led to more Westernized lifestyles, including a higher prevalence of cardiovascular diseases and diabetes.

The main purpose of this market study is to provide a comprehensive overview of Indonesia's healthcare equipment and medical device market, with special attention on business opportunities and challenges for European companies.

This report begins with a description of the healthcare sector and how well developed it is. After that, the report goes into detail on Indonesia's healthcare system, including government policies and plans, and health financing. The market structure is also addressed, and comparisons made between Indonesia's healthcare equipment and medical device market and those of Malaysia and Singapore. The report also identifies key players in the market, such as associations, importers and distributors. Business opportunities in Indonesia's local market (e.g., dental equipment, health IT, food supplements) are examined and there is also discussion of the regulations, standards and taxes that apply.

Finally, the report outlines the present challenges for relevant contacts and upcoming exhibitions.

I. AN OVERVIEW OF INDONESIA'S HEALTHCARE

1.1. A Snapshot of Indonesia's Health Landscape

Indonesia is the world's fourth most populous country, with 247 million inhabitants. More than half of the population lives in urban areas. Approximately 30% are below the age of 15, whereas nearly 8% are older than 60. Improvements in Indonesia's healthcare have increased life expectancy at birth to 69 years for men, and 73 years for women (WHO World Statistics, 2012). By 2025, the elderly population is expected to grow by more than 400%, making Indonesia one of Asia's fastest aging countries (Fletcher, 2011). This will have a huge impact on an economical and societal level, especially in the healthcare sector.

According to the World Health Organization (2014), the most common causes of death in Indonesia are: cardiovascular diseases (37%); communicable (such as malaria, dengue, diarrhea), maternal, prenatal and nutritional conditions (22%); cancer (13%); other non-communicable diseases (10%); injuries (7%); diabetes (6%); and chronic respiratory diseases (5%). On a national level, Indonesia has a doctor-to-patient ratio of 1:3000. There is however an unequal spreading of doctors across the country. The large cities on Java and Sumatra have for example many more doctors than Papua.

1.2. Millennium Development Goals

Healthcare is a priority in Indonesia's national development agenda. One way of taking a closer look at the quality of the healthcare system is through Indonesia's progress in achieving the Millennium Development Goals for 2015. These goals, established by the United Nations in the year 2000, were intended to increase overall living standards by, among other things, strengthening human capital. For three of the eight goals, reducing child mortality (goal 4), improving maternal health (goal 5), and combating HIV/AIDS and other diseases (goal 6), Indonesia needs to take additional steps in the near future. For example: the maternal mortality rate is currently 220 per 100,000 births, far above the target of 102. A high maternal mortality rate is not the only troubling indicator. Tobacco, unhealthy diets, a lack of physical activity, unsafe water, inadequate sanitation, and pollution due to traffic congestion are some of the other public health risks (WHO, 2014).

According to the WHO World Statistics (2012), 84% of the total Indonesian population has access to and is using improved drinking-water sources. Six out of ten people use improved sanitation facilities. Nevertheless, diarrhea is still a leading cause of death amongst Indonesian children younger than five (UNICEF Indonesia, 2012). It is the main cause of 31% of deaths between the age of one month and one year, and in a quarter of cases for children between one and four years old.

Air pollution in Indonesian urban areas is mainly due to vehicles. While vehicle emissions are being reduced in many areas, the volume of vehicles is rising rapidly at 12% every year in recent years. According to the WHO, some of Jakarta's concentrations fine particles are serious and are a threat to health and life.

II. INDONESIA'S HEALTHCARE SYSTEM

In 2014, the Indonesian government allocated nearly US\$6 billion for healthcare sector spending, or 3.7% of its total budget.ⁱ With the implementation of the National Health Insurance System from the beginning of 2014, the government faces difficulties in fulfilling the minimum healthcare functions due to a lack of infrastructure and human resources. Meanwhile, the Indonesian private healthcare sector is booming, growing more rapidly than the public healthcare sector.

2.1. Government Policy and Implementation Plans for Healthcare

2.1.1. Decentralization

Based on Law No. 22/1999, which provides for the decentralization of government functions and grants more autonomy to regional administrations, the local provincial governments retain considerable autonomy in setting healthcare sector policies. Prior to this, the national government was the only policy-setting and decision-making authority. It now shares this power with the regional governments of the 97 cities and 414 districts, spread throughout 34 provinces. Decentralization has triggered an increase in local spending on healthcare, leading to increased uptake of healthcare services by the poorer half of the population.ⁱⁱ

But decentralization has also weakened the unified National Healthcare Strategy, including disease surveillance and public health programs. As a result of lack of coordination between provincial and regional health authorities, there is a reemergence of communicable diseases such as polio, leprosy, among others; as well as an increased incidence of animal-borne diseases, particularly rabies. Decentralization has in fact widened the gap of the availability of healthcare services and facilities in urban and rural areas, according to leading public healthcare expert, Mr. Hasbullah Tabhrany.

There are concerns regarding the unequal distribution of the limited number of skilled healthcare professionals across provinces and cities, as well as across districts within each province. Before the financial crisis, recently graduated doctors and midwives were obliged to serve in remote districts as part of mandatory service program by the Ministry of Health. Since decentralization, the deployment of medical professionals is in the hand of local authorities.ⁱⁱⁱ

2.1.2. The *Jaminan Kesehatan Nasional* – National Health Insurance

After a delay of almost ten years, the Indonesian government has finally implemented Law No. 40/2004 on the National Social Security System, with effect from 1 January 1 2014. This law was enacted after a severe financial crisis, which resulted in the crucial need for a social security system to respond to social problems stemming from financial catastrophes.

Under Law No. 24/2011 on Badan Penyelenggara Jaminan Sosial (BPJS, Social Security Administrators), the National Health Insurance (*Jaminan Kesehatan Nasional*, JKN) will for the first time cover Indonesian citizens and foreigners residing in Indonesia for more than six months. Following a graduated scale-up in implementation, by 2019 the program will cover all Indonesians, making it the biggest healthcare system in the world.

The JKN program is administered by BPJS Kesehatan, previously known as PT ASKES Indonesia, which forms one single authority that finances Indonesia's basic healthcare collecting contributions from workers, employers and governments. The program covers comprehensive benefits, ranging from treatment of a sore throat to open-heart surgery and cancer therapies. It is based on a referral

system, in which a patient must first visit their primary doctor, unlike the previous healthcare service which allowed patients to go directly to the specialist and pay out of pocket.

The program is funded by workers' contributions and government subsidies for the poor and near poor. Together, employers and employees contribute 4.5% to 5% of the monthly salary for a family of five and they are entitled to second or first class room and board type of services. Unpaid workers, the unemployed and the self-employed (e.g., entrepreneurs, freelancers) pay between Rp25,500 and Rp59,500 per person per month to be entitled to a third, second, or first class room and board services.

As of June 2014, there were 30 private insurance companies participating in coordination of benefit (CoB) scheme with BPJS Kesehatan. Under this system, the customer may elect extra benefits on top of what has been provided by BPJS Kesehatan through private insurance. Two methods of payment are available in the CoB, whereby the beneficiary pays both the contracted insurance premium and BPJS directly to the insurance company, or to each entity separately.

There are some challenges involved in implementing the JKN programs. First, there is an inadequate number of healthcare providers. The Indonesian healthcare system is suffering from a shortage of specialists, and from the over-concentration of doctors in urban areas. Second, the healthcare sector has been underfunded for more than 30 years. Indonesia spends less than 3% of its GDP on healthcare, much below the average of Southeast Asian countries, who spend an average of 3.6 %.

Third, there are fears that the scheme could become insolvent, hampered by low contribution levels and resulting low reimbursement levels paid to providers through the Indonesian cost based group (INA-CBG¹) by the Health Ministry. Private healthcare providers are not legally obliged to establish contracts with the JKN; low reimbursement levels mean they are less likely to do so, increasing pressure on overcrowded clinics and beds at the state providers, which represent about half of the beds nationwide.

2.2. Health Financing

2.2.1. Public Sector Spending

In its National Health Strategic Plan (NHSP) for 2010-2014, the Ministry of Health outlined the importance of increasing access and quality of healthcare services for middle and low-income families at an affordable price. A total baseline budget of US\$12 billion is allocated for the period 2010-2014.² Under Law No. 36/2009, a minimum of 5% of the total national government budget, excluding the salaries of civil servants, must be allocated to healthcare. At local level, the required minimum is 10% of the local budget. Over the next five years, total spending on healthcare by the Indonesian government will grow by 12% annually. According to The Economist Intelligence Unit, the government has set aside US\$76.3 million for upgrading existing healthcare facilities.

The NHSP 2010-2014 also emphasizes an open policy for foreign players active in the healthcare sector. In order to achieve that goal, the government has set a budget for improving the cooperation with overseas investors. In addition, the government has signed a number of MOUs, LOIs and/or

¹ INA-CBG is a payment system based on the grouping of similar diagnoses, whereby the hospital receives payments based on the average costs of these diagnoses.

² The baseline budget is only taking into account the basic needs of governance and public services for the Indonesians. Its output level (i.e., service delivery) needs to be the same as the previous year.

agreements with foreign players, and about half of the total have materialized in active international cooperation.

2.2.2. Private Sector Spending

Until recently, only about 65% of the Indonesian population had some form of health insurance, leaving around 83 million people uninsured in 2011. The four million civil servants, and their eleven million dependents, were covered by PT ASKES, a state-owned health insurance. PT Jamsostek provided health insurance for the formal sector, covering about 2.9 million workers. Other formal sector workers could choose to be covered by private health insurance plans as Jamsostek, as mandated by law for companies with more than ten employees. Military personnel and their family members were covered by separate government insurance plans. For the poor, the government established a health insurance program called Jamkesmas, which covered more than 76 million people in 2011. Many provinces and districts also provide insurance for the near poor called Jamkesda. In 2011, more than 32 million people were using these local insurances.

Indonesian citizens tend to pay most healthcare expense out-of-pocket. According to the WHO World Statistics (2012), these expenditures account for 75 % of the total private expenditures on health.

Table 1: Expenditure on health in Indonesia in 2012 Source: WHO World Statistics

Expenditure on Health in Indonesia (2012)	
Total health exp. as %age of GDP	3 %
General gov. health exp. as %age of total gov. exp.	6.9 %
General gov. health exp. as %age of total health exp.	39.6 %
Per capita gov. exp. on health	42.7 US\$
Private health exp. as %age of total health exp.	60.4 %
Per capita total exp. on health	107.8 US\$

2.3. Structure of Indonesia's Healthcare system

Indonesia has in total 34 provinces. They are subdivided into districts (Kabupaten or Kotamadya), and each district is further divided into sub-districts (Kecamatan). Both public and private hospitals co-exist throughout the country.

2.3.1. Public, Private Hospitals and Clinics

About 51% of the health care facilities are government-owned. The private sector also plays an important role in Indonesia's healthcare system and is rapidly growing.

Table 2: Number of hospitals in Indonesia

Category	Owner	General Hospital	Specialized Hospital	Total
Not For Profit	Government	760	97	857
	Private non Profit	529	204	733
For Profit	Private	448	246	694
	State-owned enterprise	59	7	66
TOTAL		1796	554	2350

Source: Ministry of Health

Both public and private hospitals are classified as either general hospitals or specialist hospitals. The general hospitals are divided into four levels, A to D, depending on their facilities and capabilities in serving their patients. In turn, specialist hospitals are divided into three levels, A to C.

Classification for Public Hospitals:

1. Hospital Level A: provides extensive specialist medical services and extensive sub-specialists.
2. Hospital Level B: provides extensive specialist medical services and limited sub-specialists.
3. Hospital Level C: provides at least a minimum of four basic specialist medical services (surgical, internal, child and maternity).
4. Hospital Level D: provides at least basic medical facilities.

Classification for Private Hospitals:

1. Private General Hospital at Priority level: provides general medical services as well as specialist and sub-specialist care.
2. Private General Hospital at *Madya* level: provides general services and a minimum of four specialist care services.
3. Private General Hospital at *Pratama* level: provides only general medical services.

Some public hospitals additionally deliver private services, such as Yasmin Kencana Clinic at Cipto Mangunkusumo Hospital. Patients pay a premium on top of normal hospital fees in order to access services at the clinic.

The vast majority of publicly employed healthcare personnel also have second jobs in their own private practices or other private facilities. Doctors, for example, are allowed by law to work at a maximum of three locations.

2.3.2. Healthcare Centers at Sub-district level

The central government strives to have at least one community healthcare center (*puskesmas*) headed by a doctor in each sub-district (*kecamatan*). A *puskesmas* is usually supported by two or three support centers (*puskesmas pembantu*), headed by nurses. Most of these *puskesmas* are equipped with vehicles or motorboats as mobile healthcare centers and provide services to population in remote rural areas. Currently, all *puskesmas* have at least one midwife focusing on providing maternal and child healthcare service. The *puskesmas* and *puskesmas pembantu* are also supporting villages' healthcare posts (*posyandu*), which involve volunteers to improve local

healthcare. On a monthly schedule, a midwife and/or a doctor visit the *posyandu* to provide iron supplements and do pre-natal checks for pregnant women and provide supplemental food and vitamin A for children and take their measurement and gives vaccination. In some *posyandu* they also do check-up programs for elderly.

III. MARKET STRUCTURE

3.1. Indonesia's Healthcare Market

ASEAN is a political and economic organization of ten Southeast Asian countries, including Indonesia, Malaysia, Singapore and Thailand. With a combined population of more than 600 million and a combined GDP growth of 6% in 2013, it is one of the most attractive emerging markets in the world for business development. Its Member-States have declared healthcare a priority sector for regional integration (Medtech, 2014). The establishment of the Asian Economic Community (AEC) will further enhance the future prospects of the ASEAN healthcare industry, given the free flow of trade, and of human and financial resources among the member countries.

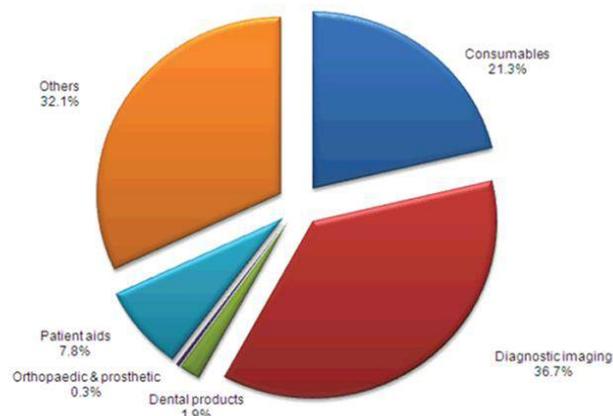
Malaysia's total healthcare expenditure was around US\$12 billion in 2013. The market is expected to be worth US\$17 billion at the end of 2015. The medical device industry, valued at US\$1 billion, is comparable to the size of the Indonesian market. In the next years, Malaysia's medical device industry will show a sharp increase in size, as its value is forecasted to be up to US\$2.7 billion in 2018. A large proportion of Malaysian manufacturers produce rubber-related medical equipment. They account for over 60% of the worldwide supply in rubber gloves (MDDI, 2014).

Singapore has a sophisticated and advanced healthcare sector. With a population of 5.5 million, its healthcare expenditure was almost US\$13 billion in 2012. Nearly US\$600 million was spent on medical devices in 2013.

Indonesia's healthcare expenditure is expected to grow to up to US\$50 billion by 2020, from just US\$23 billion in 2012 (MDDI, 2014). The size of the medical device market is nearly US\$1 billion, and boasts an annual growth rate of 15%. Most Indonesian manufacturers only produce basic hospital equipment, such as hospital beds, wheelchairs and disposable supplies. Foreign companies, on the other hand, account for over 95% of the total demand, largely related to more sophisticated medical and surgical instruments and infrastructure (e.g. medical lasers and diagnostic equipment).

With a growth rate of around 15% and a lack of domestic manufacturers, there are profitable opportunities for overseas companies willing and able to supply medical and surgical devices to Indonesia (GOV.UK, 2014). Currently, most of these devices originate in USA, Germany, the Netherlands and Japan. Examples of large manufactures are GE Healthcare, Pfizer (both from USA), Siemens (Germany), and Philips (the Netherlands). Some international companies have production facilities in Indonesia because of the low production costs. This is the case of CIBA Vision, a manufacturer of advanced surgical, pharmaceutical and vision care products; and Smith & Nephew, a global medical technology business. Locally produced goods are mostly exported overseas.

Figure 1: Indonesian Medical Devices Market in 2012



3.2. Major Stakeholders and Major Players

3.2.1. Key Stakeholders

The Ministry of Health of the Republic of Indonesia (MoH) is the governmental body that sets healthcare policy standards, provides strategic direction for healthcare delivery services, and monitors, evaluates and regulates the industrial sector. It is compulsory to consult and involve the MoH in all matters related to the classification of hospitals, obtaining hospital licenses, and import permits for medical and surgical devices and pharmaceuticals. The Ministry controls the process of registering medical equipment and supplies in Indonesia, which needs to be done by local agents or distributors.

Recently, the Indonesian government began implementing the *Jaminan Kesehatan Nasional (JKN)*, the universal National Health Insurance System. Its goal is to provide healthcare to all Indonesian citizens by 2019. BPJS (*Badan Penyelenggara Jaminan Sosial*), a quasi-governmental organization, will administer JKN. The expansion in services will create great demand for equipment like X-ray machines, CT scanners, MRI machines, defibrillators, gamma knives for incision-free brain surgery, as well as various sorts of drugs, related to, for instance, diabetes treatments and cholesterol-lowering statins (Bellman, 2012).

Government health policy is formulated in consultation with multiple Indonesian healthcare associations. These often function as a bridge between the government and the companies. Relevant associations include the following.

1. Association of the Indonesian Medical Devices and Laboratory Companies (*Gakeslab Indonesia*)
Works closely with governmental institutions in licensing, securing and supervising the production and distribution of medical devices in Indonesia. It works as a liaison between Indonesian healthcare companies and the government. *Gakeslab* provides input on regulation and monitors product standards, facilities and human resources involved in the production, distribution and usage of medical devices (Adinugroho, 2014). *Gakeslab* has around 1,300 members, including 150 producers and approximately 250 importers, agents and distributors.
2. Indonesia Association of Health Laboratories (IKLI)
Founded in 1997, IKLI works towards unifying providers of medical laboratory services and governments at all levels in Indonesia. It is active in more than 21 provinces and counts on around 9,000 members, both private and public health laboratories, in a large network spreading throughout the country. IKLI focuses on intensifying and strengthening cooperation and networking between health laboratories in Indonesia, thereby improving the quality of the services offered by health laboratories. It also advocates and assists with the implementation of community development policies and initiatives (IKLI, 2014).
3. Indonesian Hospital Association^{iv} (PERSI)
Its mission is to promote professionalization among its members by establishing and developing networks and strategic alliances among hospitals. It defends the interests of its members across entities and representatives of governmental bodies, the private sector and the community. PERSI aims to encourage hospital and healthcare improvement in Indonesia, raising the standard to the level achieved by other Asian countries.
4. Indonesian Dental Association^v (PDGI)

PDGI is the only dental association in Indonesia. It has almost two hundred branches across the country and more than 19,000 associated dentists. It is a member of several international organizations, including APDF/APRO (Asia Pacific Dental Federation / Asia Pacific Regional Organizations) and the FDI World Dental Federation.

5. Indonesian Medical Association^{vi} (IDI)

IDI was founded with the objective of bringing all Indonesian doctors under one umbrella organization (IDI Online, 2014). It regularly organizes congresses to discuss the most recent issues and challenges. All Indonesian doctors are expected to be members.

3.3.2. Major Healthcare Providers

1. Lippo Karawaci

PT Lippo Karawaci is a large and diversified property company in Indonesia. It is active in the healthcare business under the name of Siloam Hospitals, a group of leading private hospitals. It also invests actively in research, education, and state-of-the-art medical technology and equipment. Siloam Hospitals has seven hospitals across Indonesia, serving around one million patients per year. By 2017, Siloam Hospitals plans to build and operate a total of forty hospitals (Nangoy, 2014).

2. Mayapada Group^{vii}

A relatively new player in the Indonesian healthcare sector, Mayapada entered the market in the late 2000s. It runs two international standard hospitals in Jakarta and Tangerang. The hospital located in Jakarta provides a 24-hour service with a wide team of specialists in a wide-range of “centers of excellence”: neuroscience, cardiovascular, orthopedic, oncology, gastrohepatology, etc.

3. PT Novartis Indonesia^{viii}

Novartis, active in the pharmaceutical industry, started doing business in Indonesia in 1968. After multiple mergers and acquisitions, its Pharmaceutical and Consumer Health Division now employs around 650 people. Its research facility, located in Makassar, Sulawesi, is developing drugs for tropical diseases like dengue, malaria and tuberculosis. Two of its sister companies, PT Ciba Vision Batam and PT Sandoz Indonesia work as a global supply chain hub for contact lenses and a management centre for generic medicines, respectively.

4. Prodia Group

Prodia Clinical Laboratory is the largest in Indonesia with 115 branches and 254 outlets across 79 cities. Its research has assisted many national and international clinical studies. Prodia’s Clinical Research Organization, which was the first in Indonesia, provides support to the pharmaceutical and biotech industry for drug research and development. Prodia is planning to develop ten to twenty new occupational health clinics in the medium-term. (Pharma Boardroom, 2013).

5. Mitra Keluarga

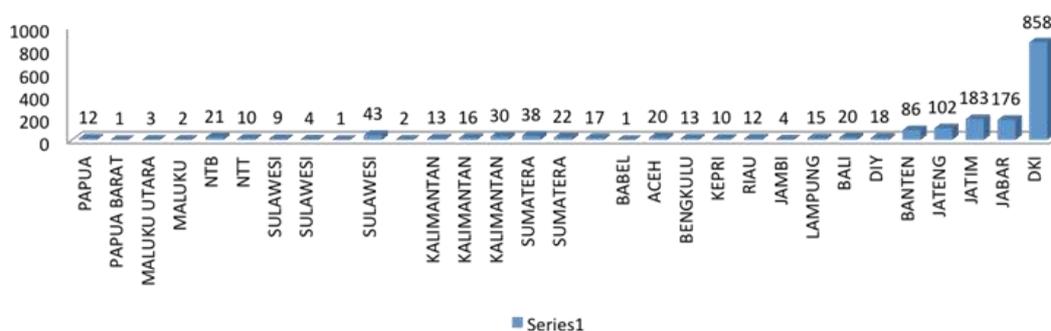
The Indonesian Mitra Keluarga Group operates eleven hospitals across Indonesia, including the cities of Jakarta and Surabaya. At the end of this year, it hopes to raise US\$ 300 million through an Initial Public Offering, which would be the biggest IPO by a hospital operator in Indonesia so far. The group intends to become an undisputed leader in the country’s healthcare sector in the coming years.

3.3.3. Key Local Suppliers

As noted above, most domestic manufacturers only produce basic hospital equipment. International companies fulfill more than 95% of the total demand in Indonesia. The implementation of Indonesia's National Health Insurance System will give domestic and foreign companies valuable commercial opportunities as there will be a large need for more advanced medical devices and surgical equipment.

Foreign companies are required to cooperate with local agents or distributors to bring medical products on the Indonesian market. Efficient and reliable agents and distributors are therefore of great importance. According to the most recent data in 2014, the Ministry of Health had registered 1751 medical equipment distributors across Indonesia.^{ix} Most are located on the two main islands of Java and Sumatra, predominantly in the major cities like Jakarta, Bandung, Semarang and Medan (Spire Research and Consulting, 2010).

Figure 2: Location of Distributors in Indonesia



Source: Binfar Ministry of Health

An overview regarding some of the main distributors of medical products in Indonesia follows below.

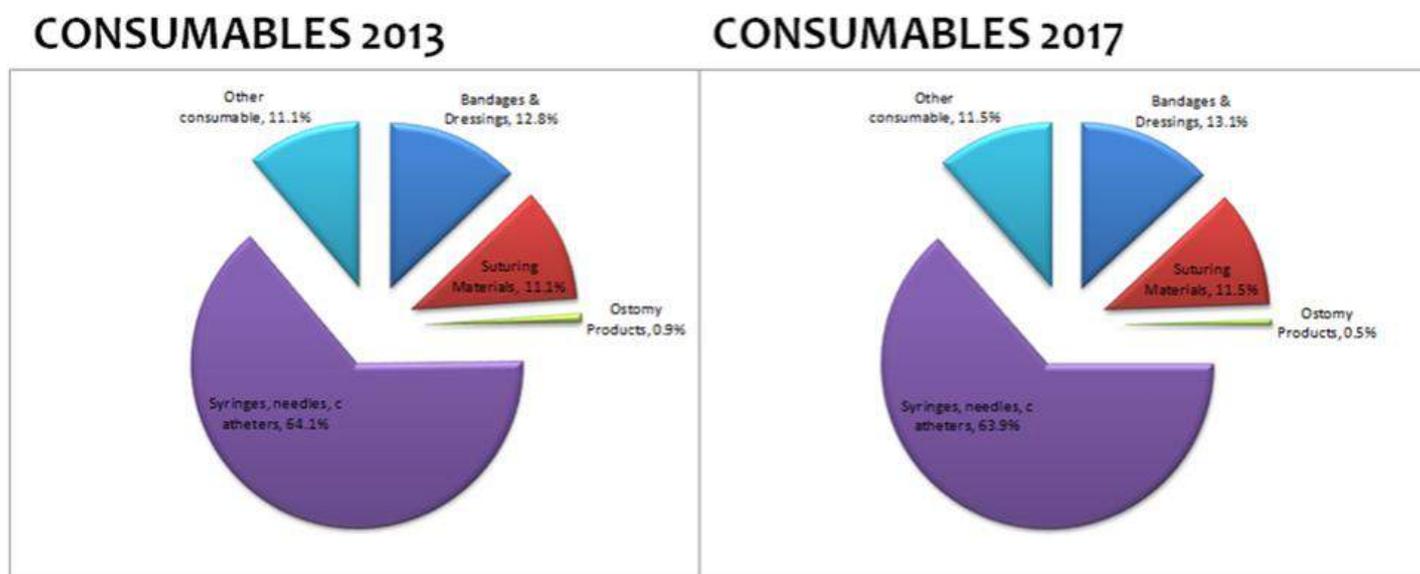
1. PT Enseval Putra Megatrading^x
PT Enseval Putra Megatrading was established in 1973. Over the years, it became one of the largest pharmaceutical distributors in Indonesia. It is not only active in pharmaceutical products, but it also deals with consumer products and medical devices. It has four divisions: pharmaceutical products; consumer and over-the-counter products and nutrition; medical devices; and raw chemical materials for various industries. Enseval has more than one hundred suppliers and it serves over 200,000 outlets across Indonesia. It has more than forty fully operational branch offices, stretching from Banda Aceh to Papua.
2. PT Mensa Bina Sukses^{xi} (MBS)
MBS is a distributor and importer of pharmaceutical, consumer and hospital products established in 1973. It is part of the Mensa Group, which consists of diversified businesses with activities such as generic pharmaceutical manufacturing, the import and export of pharmaceutical raw materials, medical supplies and dental equipment manufacturing. MBS provides their distribution services to partners that would like to manufacture and market pharmaceuticals, consumer goods and over-the-counter medicines, and medical devices and diagnostics, across Indonesia. It distributes to pharmacists, department stores, supermarkets, hospitals, laboratories, etc.

3. PT Anugrah Argon Medica^{xii} (AAM)
AAM is a leading company in the distribution of pharmaceuticals and healthcare products. Initially founded in 1980 as a trading venture, AAM repositioned itself towards physical distribution for pharmacy products with national coverage in 1996. It distributes both branded and generic pharmaceutical and healthcare products from domestic and foreign partners to for instance wholesalers, hospitals and pharmacies across the whole country. AAM has a central warehouse in Jakarta, and with its 33 retail warehouses, 5 sales offices, 4 representative offices and 2 distribution centers, it has nationwide coverage.
4. PT Transmedic Indonesia^{xiii}
PT Transmedic Indonesia was established in 2003, serving as a branch office for Transmedic Pte Ltd, the parent company based in Singapore. Its core business is the distribution of sophisticated medical technologies in Indonesia's emerging healthcare industry. In 2009, Transmedic Indonesia had a turnover of approximately 25 billion Rupiah with over fifty employees. Its services include consultation, product registration, logistics, warehousing and distribution, clinical trainings, technical maintenance, and more.
5. PT Surgika Alkesindo^{xiv}
PT Surgika Alkesindo is a medical and consumables supplier, founded in 1995. It consists of three main divisions: Intensive Care Unit (e.g., surgical equipment, hospital beds and furniture), aesthetic (e.g., face and body treatment, skin fillers) and Operating Theatre (e.g., advanced instruments and machines). Over the years, it has become the sole agent for multinational medical instrument manufacturers such as Valleylab (USA), USSC (USA), Atmos (Germany) and Richard Wolf (Germany).

Leading Indonesian manufacturers engaged in export include the following.

1. Indo Health Medical
Indo Health Medical is a supplier and distributor of medical products and equipment. It pursues partnerships with both domestic and overseas manufacturers in the healthcare industry. Its products have been exported to countries in Europe, America, Africa, and Asia.
2. PT. Andini Sarana
Andini is a manufacturer and distributor of dental equipment and medical devices that was established in 1987. Beyond manufacturing these devices, it imports healthcare equipment for the domestic market. Andini serves the needs of individuals, the army, government agencies, and dental faculties. Andini also exports to overseas markets.
3. PT. Trimitra Garmedindo Interbuana (TRIMED)
TRIMED is a company that specializes in manufacturing blood pressure cuffs. Its headquarters are located in Bandung, Java. TRIMED's blood pressure cuffs, medical bags, and casings are exported to the United States, Western Europe and other Asian countries (TGI, 2014).
4. PT. Mega Andalan Kalasan (MAK)
Founded in 1988, MAK is an engineering and manufacturing company of hospital furniture, more specifically hospital beds, operating tables, examination tables, stretchers, cabinets, overbed tables, and foldable chair beds. It also produces hospital-billing systems, both hardware and software. MAK exports its products to countries in Asia, the Middle East and to Europe.

Figure 3: Indonesian Healthcare Consumables Consumption (2013 and 2017 forecast)



Source: Business Monitor Indonesia

3.3.4. International Companies

1. GE Healthcare

GE Healthcare has had a presence in Indonesia since 1940. It has strong and solid knowledge in medical imaging and information technologies, medical diagnostics, patient monitoring systems, drug discoveries and biopharmaceutical manufacturing technologies. One of its focus points is to improve healthcare in rural areas of the country. Through partnerships with the Ministries of Health and Education, (academic) research centers, and with healthcare centers, GE Healthcare aims to reduce maternal and infant mortality risk, and give skill trainings to general practitioners. The GE Volunteers' Programme provided free health screening for pregnant women in the city of Palembang, Sumatra, in 2012.

2. Pfizer

Pfizer is one of the largest pharmaceuticals in the world. In Indonesia, where it has more than one thousand employees, Pfizer mostly manufactures and sells prescription medicines. In 2012, it announced to invest around US\$3 million for increasing its domestic facilities to achieve a higher market share (The Jakarta Post, 2012). The company has announced plans to increase its production facilities in the country, which already have an established role in its global structure.

3. Siemens

Siemens is a large player in the global healthcare industry, specialized in diagnostic systems, therapeutic technologies and knowledge processing. In Indonesian public and private hospitals, Siemens installed various medical equipment and related systems: computed tomography, magnetic resonance imaging systems, angiographic systems, conventional x-ray units and life support systems. The Pantai Indah Kapuk Private Hospital uses one of Siemens' computed tomography scanners. It also distributed its Magnetom Avanto systems (MRI system) and Somatom Sensation Cardiac 64 scanners to the Pluit

Gading Hospital in Jakarta (Spire Research and Consulting, 2010). Siemens Remote Service, a remote diagnostics system, is used in multiple hospitals across Indonesia, including Siloam Hospitals, Ramsey International Hospital, and the Gatot Subroto Army Hospital.

4. Philips

Philips, a diversified health and well-being company, started its business in Indonesia in 1895. Currently, its Indonesian branch's headquarters are located in Jakarta, with manufacturing plants in Surabaya and Batam. Philips distributed its MRI, CT scanner, cardiovascular systems, patient monitoring systems and defibrillators to various different hospitals (both public and private) across Indonesia.

5. Samsung

South Korea's Samsung, best known for its consumer electronics, acquired multiple companies operating in local and international markets. One example is NeuroLogica Corp., which produces CT scanners and other state of the art equipment; and Nexus, which makes cardiac-testing systems. Samsung has been growing in the sector, with operations being headed by its subsidiary Samsung Medison. Its outputs have been relating mostly to medical imaging and diagnostics (e.g. Ultrasound technology and X-ray), medical Cloud, and in different mobile solutions for the healthcare industry (Shaughnessy, 2014). It will, however, take some time before Samsung becomes a large and serious player in this market. Samsung's intention is to build SONO schools in five Southeast Asian countries, including Indonesia. These schools use Samsung's equipment to strengthen the abilities of doctors in prenatal ultrasound screening (Yahoo News, 2014).

IV. BUSINESS OPPORTUNITIES

Analysts expect that Indonesia's healthcare industry will grow exponentially in the upcoming years. The National Health Insurance System will grow demand for advanced healthcare equipment and medical devices. More specifically, Indonesia's sectors for dental, medical, and surgical equipment provide profitable opportunities for European companies. In addition, companies could also consider being active in Indonesia's markets for health IT, health infrastructure, food supplements, household medical devices, and/or Islamic medicines.

4.1. Medical and Surgical Devices

4.1.1. Dental Equipment

Until a few years ago, dental care was viewed as a low priority among Indonesians. There was, in general, little preventive care and regular check-ups were quite uncommon. The poorest strata of society relied mostly on alternative practices due to low financial resources to afford regular dental care. Indonesia also had one of the lowest population/dentist ratios (Infodent International, 2007).

The demand for dental equipment is significantly growing in recent years, due to increased awareness, economic development and the expansion of the middle and upper classes. Analysts forecast that the Indonesian dental equipment market will grow by double-digit numbers in the near future (Chandra, 2012). However, a very small amount of dental equipment is produced in Indonesia. Locally produced items are largely limited to, to a large extent, related medical furniture, used for the domestic dental care market or for export. More than 85% of the equipment used in Indonesian dental care is imported.

Major users of dental equipment and related supplies are public and private hospitals, private dentists, health centers, and academic faculties (Chandra, 2012). In Indonesia, European and American dental care product manufacturers are considered to provide the highest quality and reliability of advanced technology. Chinese manufacturers, on the contrary, concentrate mostly on the lower end of the market and lower quality products. A lucrative submarket for European businesses is dental equipment for scaling and polishing, for bleaching, and for orthodontics (Spire Research and Consulting, 2010).

Reasonable pricing and payment terms are crucial for success. Local buyers are actively searching for beneficial price deals. In addition, international companies should have good post-sales services, offer reliable products of high quality, employ effective promotion and cover extensive distribution channels (Chandra, 2012). It is recommended to target pitches towards individual dentists, dental faculties, and the Indonesian Dental Association. Seminars and trade shows are effective strategies in this matter.

A very important business move is to find a reliable local partner. International companies benefit extensively from cooperation with local agents in bringing dental equipment and supplies into the Indonesian market. Both formal (e.g., bureaucracy) and informal barriers (e.g., custom handling, licensing) can be reduced through cooperation with local players (Infodent International, 2007). Local partners can also increase business possibilities, as they know how to negotiate with potential local clients. It requires, for instance, a different approach when talking to a large institution like a private hospital when compared to an individual dentist who is able to make decisions by himself. For tender offers, the domestic distributors and agents need to possess a license as wholesaler of medical equipment from the Indonesian Ministry of Health and, if applicable, they need to comply with the Indonesian standardization procedure. Tenders are allocated based on proven track record

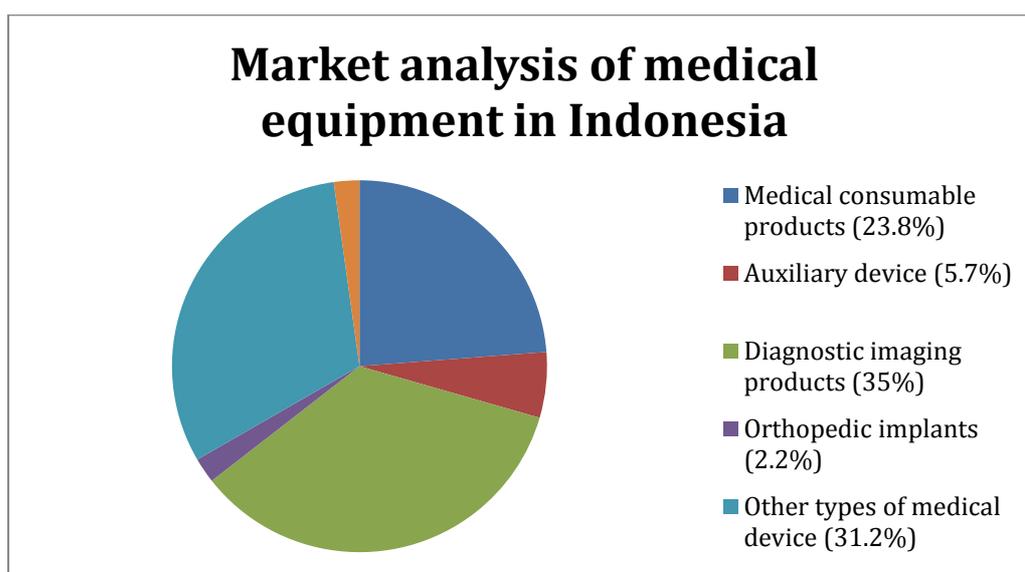
of the provider or on a long-lasting relationship between the agent and the government.

There are no restrictions imposed by the Indonesian government on the import of dental equipment. All imported products need to be registered within the Directorate General of Pharmacy and Medical Devices Services of the Ministry of Health. Depending on the type of dental equipment, the import tariffs are between 0 and 10%. The value added tax is 10%.

4.1.2. Medical Equipment

The worldwide medical device industry is one of the fastest growing industries, with an annual growth rate of 10%. According to the *World Medical Market Fact Book 2013*, published by Espicom, the value of the medical device industry was US\$327.7 billion in 2012, generated by more than 27,000 companies around the world. Indonesia's medical device market has high potential. Its market size is valued at nearly US\$1 billion, of which more than 95% consists of imported goods. The year-on-year growth rate (i.e., Compound Annual Growth Rate, CAGR) between 2013 and 2018 is expected to be at 16.7% (Cekindo, 2014). Local companies produce only basic medical equipment, like surgical gloves, bandages, orthopedic aids, and hospital furniture. A breakdown of the market shows that 35% consists of diagnostic imaging products, 23.8% of medical consumable products, 5.7% of auxiliary devices, 2.2% of dental equipment, 2.2% of orthopedic implants, and 31.2% are other types of medical devices (Cekindo, 2014).

Figure 4: Market analysis of medical equipment in Indonesia



Source: Cekindo

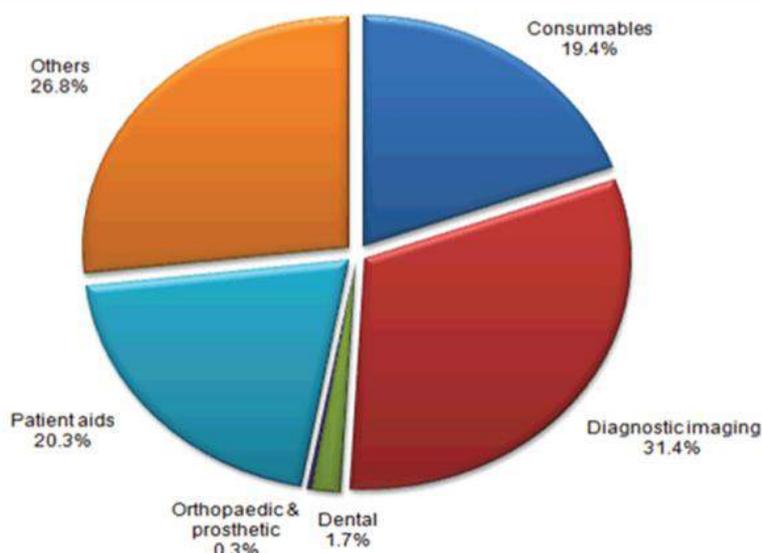
With the implementation of the National Health Insurance System, Indonesia will see a strong increase in the demand for medical devices and pharmaceutical products. Domestic healthcare providers are increasingly looking for high technology equipment to better serve the needs of their clients. They are also strengthening their presence in the Indonesian healthcare sector by building new hospitals with state-of-the-art facilities (e.g., Siloam Hospital Group), which provide opportunities for foreign companies to support the renovation and/or construction of these hospitals.

According to Rhenu Bhuller, Senior Vice President Healthcare at Frost & Sullivan, the most valuable business opportunities in the medical devices market lie in surgical equipment, diagnostics (e.g., CT

and MRI scanners, x-rays) and medical imaging equipment (Manufacturing Chemist Pharma, 2014). Lucrative options may also be found in therapies and treatment equipment for cancer and supplying medical disposables such as syringes and catheters (Spire Research and Consulting, 2010). In the Asia Pacific region, Indonesia is the 12th most attractive medical devices market, according to BMI Espicom's Medical.

No restrictions exist on the import of medical equipment. There is, however, one exception: the Indonesian government prohibits, in general, the import of used equipment. Goods must be registered with the Ministry of Health and are subject to an import tariff between 0 and 5% and the value added tax of 10% (Chandra, 2011). Finding reliable and representative local agent or distributor is highly recommended.

Figure 5: Medical Equipment Imports by Product 2011



Source : Business Monitor Indonesia

4.1.3. Laboratory Equipment

Indonesia has a promising market for clinical laboratory and diagnostics equipment. In the past few years, the Indonesian market grew annually at double-digit numbers and analysts expect that a strong growth remain visible in the foreseeable future (Chandra, 2008). As with other types of medical equipment, Indonesia relies almost entirely on imports to fulfill its domestic needs. The demand for clinical laboratory and diagnostics equipment depends heavily on the incidence of diseases related to circulatory problems, infections and parasites, and respiratory problems. These are currently significant causes of death in Indonesia (Spire Research and Consulting, 2010). The prevalence of these diseases creates, in combination with the aging and growing population, a large need for advanced laboratory equipment. In addition, an increasing number of private hospitals are looking for sophisticated laboratory equipment to offer higher quality healthcare and to be better able to serve the needs of the patients. The increasing demand in advanced equipment provides opportunities for European companies. Sustainable opportunities are related to test kits for hepatitis, sexually transmitted diseases, infectious diseases, pregnancy and diabetes, as well as in instruments related to clinical chemistry, hematology and immunology.

Natural disasters are quite common in Indonesia, given its location on the globe (inside the so-called 'Ring of Fire'). Tsunamis, earthquakes, volcanic eruptions and flooding make it necessary to rebuild destroyed laboratories and order new equipment, further fostering domestic demand.

The most prominent Indonesian end-users of clinical laboratory equipment are hospitals, health centers (*puskesmas*), and public and private laboratories. Most of these end-users access market and product information by attending conferences and trade fairs (Chandra, 2008). It is recommended to attend these events to come in contact with equipment importers, agents and distributors.

4.2. Health IT

As is true of their neighbors across the Asia-Pacific region, Indonesians are highly technologically savvy. In January 2014, the Association of Indonesian Internet Providers (APJII) reported that there were 71.19 million Internet users in 2013, an increase of 13% from the 63 million of the previous year. The number of Internet users is expected to rise to 107 million in 2014 and 139 million in 2015 in keeping with the Millennium Development Goals (MDGs) target, agreed on by the International Telecom Union (ITU).^{xv} As part of MP3EI, The Indonesian Broadband Plan aims to have connection 100% of public buildings by 2019, including hospitals and healthcare centers in both urban and rural areas. By 2014, the target for access to hospitals in urban areas is 50% and in rural areas 40%, while for community health centers in urban areas it is 40% and in rural areas 30%.^{xvi} However, the Akamai 2013 research showed that the current average internet speed in Indonesia is 1.5Mbps, slower than in many of its neighbors, where only Vietnam sees slower speeds (1Mbps).^{xvii}

According to Frost and Sullivan, 25% of Indonesians' time on the internet is spent on social media networks such as Facebook and Twitter. As mobile penetration in Indonesia exceeds 100%, this creates a new channel to reach consumers and deliver health care. Medical personnel use their gadgets to, for example, capture and exchange medical information and track medical outcomes.^{xviii}

Within the Ministry of Health medium term planning (RPJM) of 2010-2014, it is evident that IT solutions are certainly an important element of the plan by using electronic Health (e-Health) to support quality services. The Ministry of Health is also implementing e-procurement for about 75% of its procurement processes, including medical devices.^{xix}

To keep track of medical records and reporting, current practice shows that government health facilities without internet connections record their data on hard discs that must regularly be manually synchronized with the Ministry of Health's system. That being said, some hospitals such as RS Hasan Sadikin, Bandung and RS Gandaria, Jakarta are already using cloud services with servers located abroad and with data encryption for their maternity ward's data.

The Ministry of Health's Roadmap team is still developing the final form and concept of the communication system to be developed to integrate data communication system across 450 cities and municipalities in Indonesia, with programs such as SaaS, VideoaaS, IaaS, still under consideration.

It is worth noting that most hospitals prefer to buy their IT software from local sellers, as it is easier to reach the local vendor if a problem arises.

4.3. Health Infrastructures and Services

Despite limited government spending on healthcare, health infrastructure and services are nevertheless improving steadily.

Indonesia's newly elected President, Joko Widodo, announced his commitment to carry out policies to meet the needs of health services, healthcare equipment and medical devices, and medical personnel, particularly for those in rural and remote areas. The new administration is expected to introduce a Healthy Indonesia Card (*Kartu Indonesia Sehat*) as a nationwide program, which would provide free medical healthcare for the poor.

One of the main goals of the government is to increase the quality of Indonesia's healthcare facilities. More specifically, better preventive healthcare, occupational health and safety, reproductive health, and nutrition. Education programs for healthier lifestyles are expected to be implemented. The target is to increase the average life expectancy to 73.7 years by 2025, decrease infant mortality to 15.5 out of 1,000, the maternal mortality rate to 74 per 100,000, and lower the prevalence of poor nutrition among children to 9.5%.

There is an increased commitment to upgrading healthcare services in Indonesia, proven by the new state budget minimums of at least 5% spending towards reducing maternal, infant and under-five mortality rates, controlling HIV/AIDS, infection diseases and chronic diseases and implementing basic public services through the establishment of 6,000 *puskesmas*. With this increased commitment come increased business opportunities in the healthcare sector. More specifically, in the neonatal emergency facilities in remote rural health centers, in emergency, immunization, dental and laboratory kits, and in supporting facilities such as generators, waste management processing units and calibration tools.

Another opportunity in the healthcare infrastructure is in the design, architecture and interior of the hospital and related facilities. A large number of hospitals are already collaborating with foreign and local architects, aiming to raise the environmental and livability of hospital spaces.

Some examples of such collaboration are redesign of the Kemang Children's Hospital in Jakarta completed in 2008, carried out by Aboday of Jakarta. On this occasion, the creative office set to transform the substantial space and budgetary constraint-driven limitations existing in this facility into a welcoming and functional unit.^{xx} Another example is the project implemented by DP Architects Singapore at the MRCC Siloam hospital in Jakarta, having re-structured the premises of one of the tallest hospitals in the world to make the most of its space with serviced apartments and a multi-storey car park^{xxi}. Another collaboration was seen in the Dutch Health Architects project, which entailed re-design of the Jakarta Children's Hospital.^{xxii}

4.4. Participation in Establishing Hospital and Clinic Projects

Wealthier Indonesian citizens often travel abroad for their healthcare. Most go to Singapore, Malaysia, China, the USA or Europe. To curb what has become known as "health tourism", the Indonesian government has been making efforts towards increasing Joint Commission International (JCI) hospital accreditation for both government and private hospitals since 2013. Currently, there are 17 Indonesian hospitals with JCI accreditation and several pending applications. With the expansion of accredited facilities, the government hopes that the level of services that Indonesian hospitals prove will be similar to the hospitals abroad.

Based on the new Negative Investment List, the Indonesian government has increased opportunities for foreign investors to invest in the healthcare sector. With the new regulations,

foreign ownership of specialty and sub-specialty hospitals and clinic projects can go up to 67% (as stated in the regulation section of this report). For investors of ASEAN member countries, the ownership cap is 70%; the increased allowance is related to implementation of the ASEAN Economic Community (AEC), due in 2015. The government has expressed its hopes that, with the removal of economic and trade barriers between Indonesia and other ASEAN countries, investments in the country's healthcare will grow strongly. It hopes also that increasing business interest can also contribute to increasing the quality of life in more remote regions of the country, especially eastern Indonesia. In addition, the new Negative Investment List makes it possible for foreign companies to directly invest and serve the Indonesian market, avoiding the exploitation of Indonesian health tourists who are often required to travel to neighbor countries for their healthcare (Eddymurthy & Suryohadiprojo, 2014).

4.5. Other Healthcare Opportunities

4.5.1. Food and Health Supplement Products

Food and health supplements are growing in popularity. An increasing number of Indonesians use them for the prevention of diseases and to support a healthy lifestyle. Also influenced by a growing awareness of preventive health measures, this new change in consumption patterns has led to a marked expansion of the domestic market for food and health supplements. Foreign manufacturers can exploit these opportunities, in particular demand for: degenerative prevention products (for cancer and cardiovascular diseases), food supplement products, daily vitamins (vitamin E and C, and fish oil), and supplements for senior citizens (UK Trade & Investment, 2011). The National Agency of Drug and Food Control (Badan Pengawas Obat dan Makanan) is the Indonesian regulatory authority for food and health supplements (Spire Research and Consulting, 2010).

4.5.2. Household Healthcare Devices

According to a report from Nielsen on global consumer confidence, Indonesia had the world's highest consumer confidence index for the fourth consecutive quarter in Q4/2013. The Nielsen Consumer Confidence Index measures the perception of local job prospects, personal finances and immediate spending intentions. This growth in consumer confidence comes amid the continued growth of the Indonesian economy and the increase in the minimum wage level.

One effect of increasing purchasing power in recent decades has been increased adoption of a Western-style diet. This has led to growth in lifestyle-related illnesses such as diabetes, heart problems, and obesity. These illnesses require different approaches and treatments from communicable diseases commonly seen in developing countries. This has meant more and more households buying household healthcare devices such as digital blood pressure meters or digital insulin test to do self-checks at home.

4.5.3. Islamic Medicines

A rise in Islamic consciousness has been reflected in increased use of Islamic medicines in Indonesia, based on primitive medical knowledge which is still applied in medical practice around the world. Many of these practices are intertwined with religious belief, a fundamental part of the lives of most Indonesians. Among the Muslim majority, there has been an increase in the consumption of medicines and treatments that comply with the Islamic teachings. These are found,

for example, in the use of cupping for certain ailments, medicines without alcohol ingredients and vaccines free of traces of pig genetics.

This represents a large business opportunity in a country whose 250 million inhabitants are about 90% Muslim. Islamic medicine-related products can range from mobile device applications to knowledge-based services related to queries regarding the use and purposes of Islamic medicines.^{xxiii}

Currently, there is no Halal obligation for medicines or medical devices. So far, the Indonesian Council of Ulama (MUI) has given Halal certification only to 22 medicines, out of more than a total of 30,000 medicines in the Indonesian market. The government is currently discussing a bill that could make Halal certification mandatory for raw food products, medicine and cosmetics. A decision on whether or not this rule will be in force and its exact application is due by the end of 2014.

V. REGULATION, STANDARD AND TAXES

5.1. ASEAN Medical Device Directive

The ASEAN Economic Ministers have established that medical devices are one of the twelve priority segments to be prioritized in the ASEAN region integration process. In 2012, ASEAN's Medical Device Product Working Group approved the ASEAN Medical Device Directive (AMDD). Set to be implemented in December 2014, it establishes a harmonized classification system, standards for device safety and performance, conformity testing procedures and a Common Submission Dossier Template (CSDT). This may result in a more predictable and consistent path towards the Southeast Asia market for foreign manufacturers.

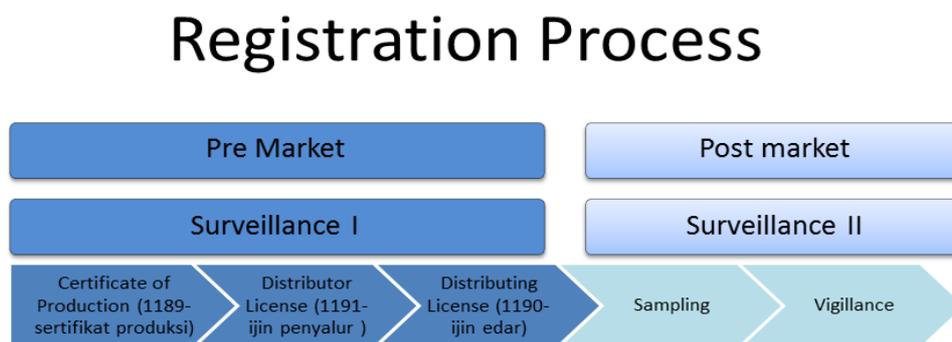
The AMDD establishes a four-tier, risk-based classification system for medical and in vitro diagnostic devices based on Global Harmonization Task Force (GHTF) guidelines and the European Medical Device directives: class A (low-risk such as tongue depressor), Class B (low to moderate risk such as suction equipment), Class C (moderate to high risk such as bone fixation plates) and Class D (highest risk such as implantable defibrillators). There is, however, room for national regulators to deviate from the prescribed AMDD classification rules based on sound reasoning in clinical requirements, processing timeframes and government fees.

Under the AMDD, common technical documents will be locally required for registration in each ASEAN member state. The required documents will be submitted using the ASEAN Common Submission Dossier Templates (CSDT).

5.2. Indonesian Medical Equipment and Household Supplies Regulations

With the purpose of protecting the public from inappropriate medical equipment and supplies, in 2010 the Ministry of Health issued a Regulation on Certification of Medical Equipment and Household Supplies (No. 1189/VIII/2010) for locally produced medical equipment; a Regulation on Distribution Permits for Medical Equipment and Household Medical Supplies (No. 1190/MENKES/PER/VIII/2010); and a Regulation on the Distribution of Medical Equipment and Household Supplies (No. 1191/MENKES/PER/VIII/2010).

Figure 6: Registration Process



The regulations stipulate that, with the exception of certain items which are specified by the Ministry, the distribution of all medical equipment and supplies requires a license from the Ministry of Health. The rule is also applied to the distribution of re-conditioned, re-manufactured, or re-assembled, and re-packaged medical equipment and supplies. Aside from detailing the license application procedure, period of license and the license holder's reporting obligation, the regulation also

stipulated the provisions on labeling in Bahasa Indonesia, advertising and quality maintenance issues.

For imported medical equipment and supplies, the regulations stipulated requirements for export and import as well as distribution. It states that importing medical equipment and supplies may only be conducted by local companies that already have a distributor license (*ijin Penyalur Alat Kesehatan*, IPAK) for the imported products. Pursuant to the regulation, the local distributor also has to be a limited liability company (PT) with a good distribution network, a warehouse and competent technicians. Once the distributor license is obtained it is valid indefinitely, however, the Ministry of Health will audit them every five years.

Prior to importing medical devices to Indonesia, a medical device has to be registered at the Ministry of Health - Directorate General of Pharmacy and Medical Devices Services by its importer or distributor to get a distributing license (*ijin edar*), which is valid for five years. To obtain it, the documents that have to be submitted are, among others: a certificate of free sale; a letter of authorization from the principal, which must be certified by the Indonesian Embassy in the principal's country; international certification from CE/FDA or their equivalent; a risk analysis of the medical equipment; and product standardization, for example medical electrical devices need to conform the IEC60601 standard.

Based on the potential risks caused by the utilization of medical equipment, there are four categories, similar to A-D categories in AMDD, namely: Class I, Class IIA, Class IIB, and Class III. Depending on the category and subject to timely submission of all required documentation, product registration can take between 45 days to more than 6 months if the Ministry of Health finds the documentations submitted were not complete.

In comparison with other countries, Indonesian registration process is one of the quickest, as shown below^{xxiv}:

Table 3: Duration of Medical Equipment Registration

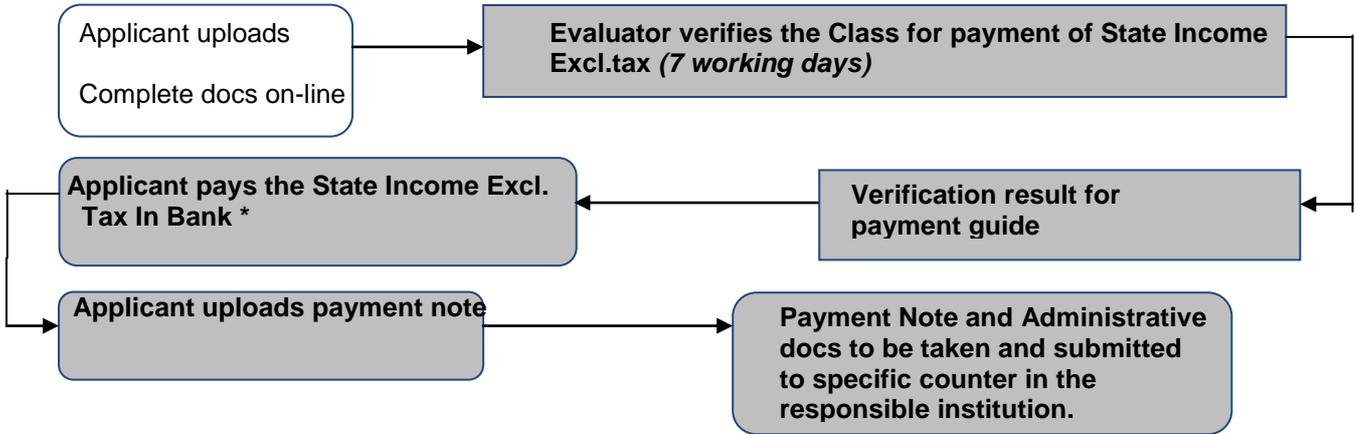
Country	Duration of Medical Equipment Registration			
	Class I (A)	Class IIa (B)	Class IIb (C)	Class III (D)
Philippines	6 months	6 months	6 months	8 months
Singapore	2 months (listing)	4 months	10 months	13 months
USA	3 months	6 months	6 months	18 months
Indonesia	45 calendar days	80 calendar days	80 calendar days	100calendar days
China	12 months	30 months	30 months	36 months

The diagram below charts the flow of the registration process for each of the following:

- A. Production Certificate of Medical Equipment and household devices
- B. Distributor License (*ijin Penyalur Alat Kesehatan*)
- C. Distributing License (*ijin edar*)

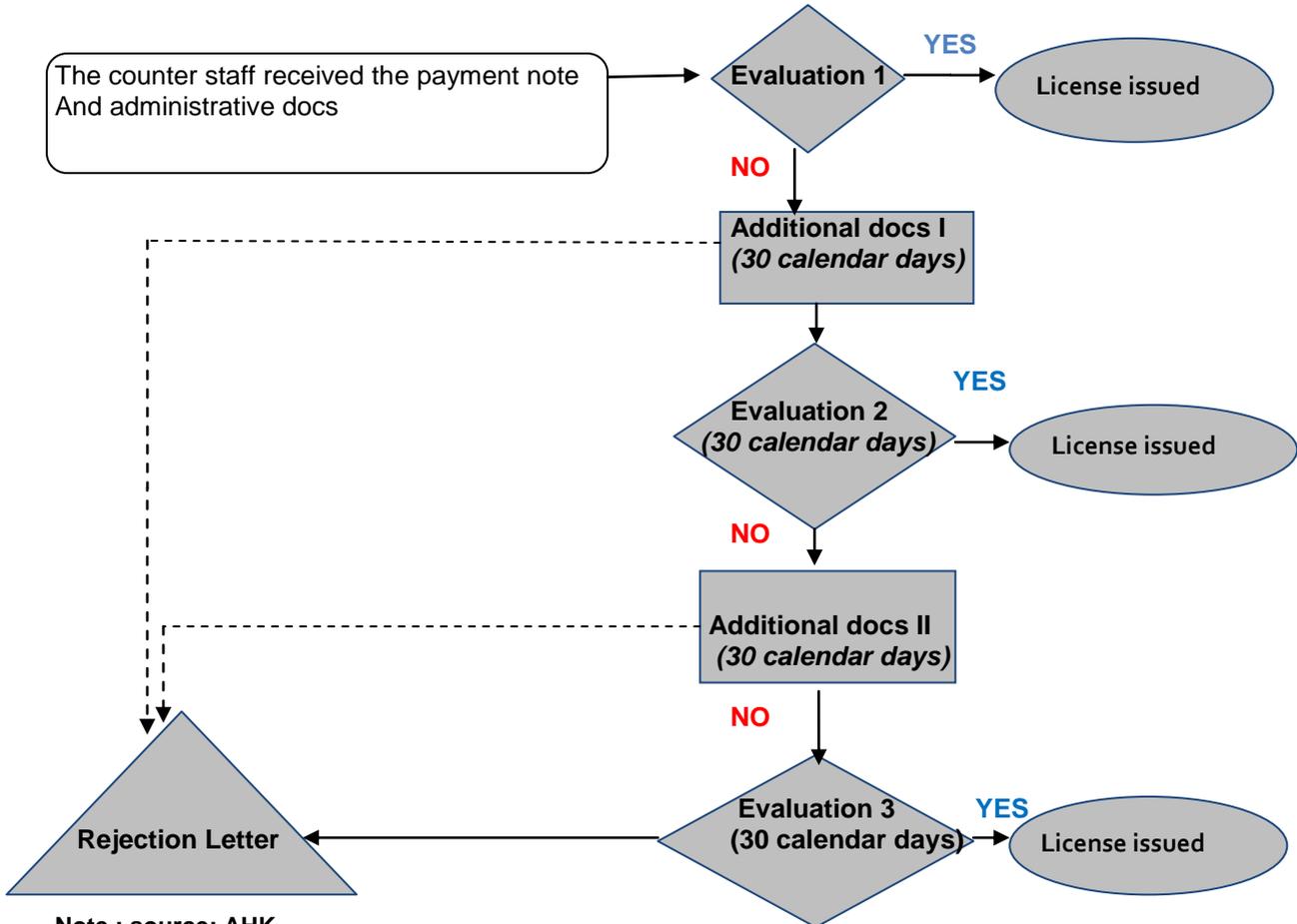
DIAGRAM 1: REGISTRATION PROCESS

PRE REGISTRATION



*= The registration will be cancelled if there is no received payment in 10 days.

REGISTRATION



Note : source: AHK

Evaluation 1:

- A. Production Certificate for Medical Equipments and Household Medical Supplies
- B. Medical Equipment Distributor's License: Point A + Point B = 45 calendar days.
- C. Distributing License for Medical Equipments and Household Medical Supplies
Class I: 45 calendar days; Class II: 80 calendar days; Class III: 100 calendar days

5.2.1. Electronic System to Control Medical Devices

Prior to the implementation of Universal National Healthcare, in 2013 the Ministry of Health implemented e-purchasing for its medical device (and pharmaceutical) procurements, whereby all medical devices are included in the e-catalogue to streamline the process. The aim of the system is to increase transparency and to ease the transaction process in healthcare sector.

There are at least 1,609 types of medical devices covered in 16 categories in the catalogue which are searchable based on the brand, name of the device, and 25 other specifications, including warranty and number of product sold. The catalogue also gives the provision of distribution costs to the regencies. Institutions can buy directly purchase products included in the e-catalogue without any tender, while procurement of products that are not included in the catalogue requires a tender.

The requirements for medical devices to be included in the e-catalogue are as follows:

1. Distribution by a licensed distributor (IPAK)
2. A license number for distribution
3. Transparency in pricing, specification and after sales service

For further surveillance, the Ministry of Health also applies e-Watch, an electronic reporting system in case of problems arising from the use of the medical device in healthcare facilities.

Although Indonesian Corruption Watch supports the system for transparency, some small company members of Gakeslab still expressed their disagreement, as they believe that these measures are not enough to ensure good practice. The main argument is that the user can purchase directly from the manufacturer without any tender, which could eliminate the need for dealing with intermediaries which are deemed to be in the best in position to assess quality standards of products.

5.2.2. Product Certification SNI ISO 13485:2003

The Indonesian Standard of medical devices is based on ISO 13485 Medical Device - Quality Management System - Requirements for Regulatory Purposes, recognized as *Standar Nasional Indonesia*, SNI, ISO13485:2003. In order to obtain a certificate, the Indonesian medical device producer has to apply to *Lembaga Sistem Manajemen Mutu Alat Kesehatan* (LSSMMAK), who then will review the documentation. Once the certificate is granted, it is valid for 5 years and can be extended based on further review.

Such certification is especially needed when companies are selling their products to government institutions. At the *Badan Standardisasi Nasional*, there is a list of all medical devices which have obtained the SNI standard, currently there are 62 products in their list.

5.2.3. Investment: the Negative List

The government has increasingly adopted protectionist measures with the goal of achieving self-sufficiency in various sectors. Some are entirely closed to foreign investment, while others are subject to ownership limits. The 2014 Negative Investment List, issued under Presidential Regulation No 39/2014, has increased the permitted level of foreign ownership for many segments in the healthcare sector. Among others, it removed the 200-bed minimum requirement for specialist/sub-specialist hospital services under the previous List. It is worthwhile to note however that the new List still maintained the foreign ownership limitation in the specialist/sub-specialist hospital services category at 67% throughout Indonesia. The same limit applies to specialist

medical clinics and dental clinics. Regarding the present List, it can be said that the healthcare sector is however more open today than in previous years.

On the eve of planned implementation of the ASEAN Economic Community, the new Negative List also eases foreign investment restrictions for investors from ASEAN Member States in certain situations. In the for specialist/sub-specialist hospital services, the ownership maximum for ASEAN investors rises to 70% in eastern Indonesia (except for the urban regions of Makassar and Manado). Nursing services are open up to 51% for foreign ownership from ASEAN health support services, business and management consultancy services and/or hospital management services. Testing of maintenance and repair calibration of medical devices are all open for foreign ownership with the maximum set at 67%, 67% and 49%, respectively. For hospital services, specialist and subspecialist services, this limit is set at 67% throughout Indonesia, and a maximum of 70% applicable across eastern Indonesia, (again excluding Makassar and Manado).^{xxv}

5.2.4. Government Procurement

Indonesia's public procurement rules have been reformed with the goal of improving procedures and accommodating the increased fiscal authority of the regional governments. The most recent rules affect the procurement of goods and services by the national and regional governments, state-owned legal entities (universities) and state/region-owned enterprises that are financed wholly or partly from state or regional budget.

Generally, it is mandatory to have a competitive public tender, except for limited cases. Public procurement is regulated by Presidential Regulation No 54/2010 on Procurement of Goods and Services. The regulation limits foreign companies to bidding on projects valued at more than Rp100 billion (US\$8.5 million) for construction, more than Rp20 billion (US\$1.7 million) for goods, and more than Rp10 billion (US\$850000) for consultancy services.

The government grants special preferences to encourage domestic sourcing and to maximize the use of local content in government procurement, while encouraging the use of domestic goods and services to the maximum extent feasible.

Procurement plans are included in each budgetary year. The 2015 annual state budget was submitted to the Parliament in mid-August, for approval by the end of December. This budget is, in principle, valid for the whole year of 2015, but because a new government will take office in October, a revised budget will need to be re-approved in March 2015.

The planning period for the national state and regional budgets is a good source of insight for companies into public procurement projects to be launched in the following year. Because Indonesia's official communication flow can sometimes prove complex to penetrate without a considerable degree of familiarity, finding a local partner is the best step towards accessing this information.

All public tenders are published, but there are often listed specifications that require the knowledge and support of a local company to maximize the chances of success in a given procurement process. In any case, in order to apply for public tenders, a company must register at the government's Procurements Portal INAPROC (https://inaproc.lkpp.go.id/v3/daftar_lpse) to be eligible to submit applications for any ongoing selection procedures.

After submission of digital documents and completed registration form is complete, there is a verification process of the original documents. The company is considered to be a verified tender applicant once the information and documentation is verified and certified, which can be done on-site at any government institution. The applicant may then bid in any tender related to its field. It is useful to note that most tenders require that the company has been established for a minimum of 2

years. Again, having an established local partner is advisable in this respect.

5.2.5. Local Content

Based on President Regulation No 70/2012 on Government Procurement and on Presidential Instruction No 2/2009 regarding the use of local content in government procurement, government procurement decisions are often based on preference for products with local content in order to encourage domestic sourcing. Government departments, institutions and corporations are instructed to use domestic goods and services as much as is feasible and to use foreign components only when necessary. The same applies in the appointment of foreign contractors as subcontractors by local companies. The level of local content of a product is based on a self-assessment done by the company and its calculation based on the origin of input costs. For the provision of goods, these costs include material, labor and indirect manufacturing costs. For services, it includes materials, labor and equipment used in the provision of services. It should be noted that the calculation excludes profits, company overhead and VAT.

5.3. Taxes and Duties

Indonesian import duties can go up to 30% for medical equipment. In general, electro-medical and other technical equipment have a tariff of 5%, while medical supplies and plastics are assessed a higher rate (20-30%). All imported medical equipment is subject to a 10% value added tax.^{xxvi} For more information on import regulations, please visit the Directorate General of Customs & Excise Website (<http://www.beacukai.go.id> or <http://eservice.insw.go.id>).

VI. CHALLENGES

Even though the country shows good future prospects for the healthcare medical device market, this report would not be complete without mentioning the local challenges that go together with doing business in Indonesia. First of all, corruption and heavy bureaucracy are an indisputable presence in the Indonesian market. For this reason, companies should be patient and ready to face those challenges. Business compliance might be lacking in some areas, for example during a tender process, however the trend is improving across sectors. How businesses address these issues can help determine their success or failure.

Secondly, the pricing of the products might also be a challenge for European companies. While the Indonesian medical industry has a preference for high-quality products such as from Europe, USA, and Japan, the pricing of the product is important, especially considering the current Euro exchange rate, slightly unfavorable in comparison to other currencies. A favorable payment term also plays a role in the decision as inflexibility in terms of sales, payment schedules and length of contract could pose a hurdle.

Thirdly, some regulations regarding medical devices might pose a challenge for European companies, such as mandatory registration of medical devices at the Ministry of Health before clearance through Indonesian Customs. This process can be lengthy and must be conducted by local distributors. In addition, while there are no restrictions on imports of medical equipment, importing used equipment is prohibited. Based on a regulation by the Ministry of Trade, all imported goods have to be labeled in Bahasa Indonesia prior to arrival in the country.

Fourthly, like other developing countries, Indonesia's infrastructure is hindering its development. In some areas, the lack of stable and continuous electricity might raise problems in the healthcare sector. For example, vaccines that need constant refrigeration might be damaged as a result of power outages. There is also a shortage of medical personnel, which means there might not be enough professionals who can operate, maintain and calibrate the devices. Companies may have to train operators and their related staff as part of the after sales service.

Finally, another challenge is related to the awareness of both professionals and public of certain existing treatments towards certain common ailments. Companies can help to raise awareness by organizing workshops for the professionals or using media outlets in order to reach the public.

Conclusion

The objective of this market study was to highlight the challenges and opportunities for European companies in the Indonesian healthcare equipment and medical device market. With a changing and evolving globalized market and the current economic climate, Indonesia's healthcare sector is an attractive market worth considering.

Indonesia has a population of nearly 250 million people and is therefore home to one of the largest healthcare industries of the world. Even though today half of the population is below thirty years old, the elderly population is expected to quadruple by 2025. This rapidly increasing elderly population will have major consequences for Indonesian society, especially in the healthcare sector.

After a ten-year delay, the Indonesian government has finally begun implementation a National Health Insurance System, the JKN. Its goal is to provide, for the first time, healthcare to all Indonesian citizens by 2019. This will make it the largest healthcare insurance system in the world. The implementation of this universal system will create widespread demand for advanced medical and surgical equipment like X-ray machines, CT scanners, MRI machines, defibrillators, gamma knives for incision-free surgeries, as well as different types of drugs related to the expected increase in diabetes and cardiovascular diseases.

Indonesia's healthcare system is suffering from a shortage of specialists. In addition, doctors are mostly located in the urban areas of the two main islands, Java and Sumatra. The domestic healthcare sector has been underfunded for more than 30 years, with less than 3% of GDP invested in healthcare. This is much lower than in high-income countries (often more than 7%) and even below comparable countries in Southeast Asia, which spend around 3.6% of their GDP.

Nevertheless, Indonesia's healthcare industry is expected to grow up to US\$50 billion by 2020, compared to a total market value of US\$23 billion in 2012. The size of the pharmaceutical industry and the medical device market is respectively US\$5 billion and US\$1 billion, with double-digit annual growth rates.

Almost all domestic manufacturers only produce basic hospital equipment, such as hospital beds, wheelchairs and disposable supplies. Overseas companies account for over 95% of total supplies, including the more sophisticated medical and surgical instruments and infrastructure, such as medical lasers and diagnostic equipment. Currently, the largest exporting countries to Indonesia are the United States, Germany, the Netherlands and Japan. With strong annual industrial growth rates and the implementation of the National Health Insurance System, there are profitable opportunities for international companies in Indonesia's healthcare sector.

The most valuable business opportunities in the medical device market lie in surgical equipment, diagnostics, and medical imaging equipment. Regarding dental equipment, lucrative submarkets include devices for scaling and polishing, for bleaching, and for orthodontics. Sustainable opportunities for laboratory equipment are related to, among other things, tests kits for hepatitis and infection diseases, and for instruments related to clinical chemistry, hematology and immunology.

International companies like Philips, GE Healthcare and Pfizer are already active in Indonesia's healthcare sector. By intensifying their businesses activities in Southeast Asia's largest country, they have been able to profit from the solid growth rates the healthcare industry displays and will continue to do so in the coming years. Some of these companies have production facilities in Indonesia due to the available low production costs. Much of this local production is intended for export.

Foreign companies are required to cooperate with local agents or distributors to bring medical devices to the Indonesian market. Good and reliable agents and distributors are therefore of great importance. Formal and informal barriers can be reduced with the help of local players. Most distributors are located in the large cities of Java and Sumatra, like Jakarta, Bandung and Medan. Examples of Indonesian distributors are: PT Transmedic Indonesia, PT Enseval Putra Megatrading and PT Mensa Bina Sukses.

While Indonesian medical buyers have a preference for high-quality products from Europe, the USA and Japan, pricing and payment terms are key factors in successfully doing business in the Indonesian medical device market, given that local buyers look for beneficial price deals. International companies should also provide good after-sales services, offer reliable products of high quality, do effective promotion, and explore extensive distribution channels. Marketing efforts should be aimed towards individual practitioners, public and private hospitals, health centers and associations. Attending exhibitions and seminars are effective strategies in this matter.

No restrictions exist on the importation of medical equipment. There is, however, one exception: the Indonesian government prohibits, in general, the import of used equipment. The distribution of nearly all medical equipment and supplies requires a license from the Indonesian Ministry of Health, which needs to be obtained before importing. At the same time, the local distributor must be a legal entity and also possess a license as a distributor. For tender offers, domestic distributors and/or agents need to comply with Indonesian standardization procedures, insofar applicable. Government procurements have a preference for products with local content to encourage domestic sourcing.

European companies are, above all, strongly advised to invest time and effort into finding a good and reliable local partner, as serving the Indonesian market requires cooperating with an Indonesian agent and/or distributor. They have valuable know-how to offer in terms of negotiating with potential domestic clients. Talking to individual practitioners requires a different approach than business-to-business channels, as would be the case of a large private hospital. Attending conferences and events is a good strategy for meeting equipment importers, agents and distributors.

Relevant Contacts and Trade Fairs

A. Relevant Contacts

GAKESLAB

Gabungan Perusahaan Alat-Alat Kesehatan dan Laboratorium
(Association of the Indonesian Medical Devices and Laboratory Companies)
Jl. Rawamangun Muka Raya no 1a, Pulogadung – Jakarta 13220
Tel. +62 21 4722213 Email: Sekretariatgakeslabindo@yahoo.com
Chairperson: Ms. Titah Sihdjati Riadhie

IKLI

Ikatan laboratorium kesehatan indonesia
(Indonesian Association of Health Laboratory)
Jl. Pegambiran 31A, Rawamangun – Jakarta 13220
Website: <http://ilki-online.org/>
Tel. +62 21-4705268
Fax. +62 21-47864953
Email: ilkipusat@yahoo.com; sekretariat@ilki-online.org
Chairperson: Ms. Sri Suparti

ASPAKI

Asosiasi Produsen Alat Kesehatan Indonesia
(Indonesian Medical Device Producers Association; part of GAKESLAB)
Adi Persada Building, Jl. Raden Saleh No. 45-G – Jakarta Pusat 10610
Chairperson: Ir. Ade Tarya Hidayat

Directorate General of Customs & Excise (BEA CUKAI)

Website: www.beacukai.go.id; eservice.insw.go.id for import regulations

Ministry of Health (Directorate General of Pharmacy and Medical Devices Services)

Gedung Dr. Adhyatma, MPH
Jl. H.R Rasuna Said Blok X-5 Kav. 4-9 Kuningan – Jakarta 12950
Website: <http://binfar.kemkes.go.id>
Tel. +62 21- 5214874
Email: prodisalkes@yahoo.com

Badan Standardisasi Nasional (National Standardization Agency of Indonesia)

Gedung Manggala Wanabakti, Blok IV, Lantai 3-4
Jl. Gatot Subroto, Senayan – Jakarta 10270
Website: <http://bsn.go.id/>
Tel. +62 21-5747043
Email: bsn@bsn.go.id

B. Trade Fairs

Indomedica Expo

27-30 August 2014
Indomedicare.com
+62216345861
Venue: JIExpo Kemayoran Jakarta

Exhibition hours 10:00-19:00

This year will be the 7th International Exhibition on Medical, Dental & Hospital Equipment, Medicine, Healthcare, Supplies and Services. Last year's Expo, with 108 Exhibitors from 8 countries, was attended by 5831 visitors both from local and abroad. More than 70 % of them were General Management and top Management level.

Profile for exhibit includes analysis, control and diagnostic equipment, books and medical publishing, pharmaceutical, clinical laboratory, medical aid products, health sport equipment, prosthesis products, equipment for monitoring and intensive care, hospital engineering, waste treatment and disposal, first aid equipment & services, medicine, Medical Equipment and technologies, Rehabilitation & help for the disable.

Indonesian Hospital Expo

15-18 October 2014

Hospital-expo.com

Venue: Jakarta Convention Center

Exhibition hours 09:00-17:00

This year is the 27th Indonesian International Hospital Expo. Last year's Expo, with 358 Exhibitor from 9 countries, was attended by 28441 visitors both from local and abroad. The exhibitor list Jakarta Hospital Expo will include medical equipment and technologies, clinical laboratory, pharmaceutical, medicine, analysis, control and diagnostic equipment, surgical block, preventive medicine equipment, rehabilitation and help for the disabled, medical aid products, first aid, hospital engineering, furnishing, kitchen and laundry management, equipment for disinfectant, sterilizing and cleaning, waste treatment and disposal, cold storage, cars and ambulance, hospital furniture, telecommunication and data transmission, hospital engineering, banking, books and publishing, education and career, insurance companies which are related to the field of hospitalization.

References

- Adinugroho, V. (2014), "Gakeslab DIY", http://gakeslab.com/?page_id=6, Accessed 7 August 2014.
- Bellman, E. (2012), "Indonesia Writes Script for Medical Sector. Country Promises Rich Market as Jakarta Backs Universal Health Care", <http://online.wsj.com/news/articles/SB10000872396390444657804578048153386598438>, 18 October 2012.
- Cekindo (2014), "Medical Devices", <http://cekindo.com/sectors/medical-devices-in-indonesia.html>, Accessed 13 August 2014.
- Chandra, S. (2008), "Indonesia: Clinical Laboratory Equipment", U.S. Commercial Service, June 2008.
- Chandra, S. (2011), "Indonesia: Medical Equipment and Supplies", U.S. Commercial Service, May 2011.
- Chandra, S. (2012), "Indonesia: Dental Equipment and Supplies", U.S. Commercial Service, April 2012.
- Eddymurthy, I. & Suryohadiprojo, A. (2014), "New Negative List Introduces Changes to Health Investment in Indonesia", <http://blog.ssek.com/index.php/2014/08/new-negative-list-introduces-changes-to-health-investment-in-indonesia/> 7 August 2014.
- Espicom (2013), "World Medical Market Fact Book 2013".
- Fletcher, R. (2011), "Challenging opportunity for aging population", <http://www.thejakartapost.com/news/2011/07/02/challenging-opportunity-aging-population.html>, 2 July 2011.
- GE Healthcare (2014), "About Us – Indonesia", http://www3.gehealthcare.com.sg/en-gb/about_us/about_us_-_indonesia#tabs/tabB0D74B8889A2479CBDC4D8334DE8A603, Accessed 11 August 2014.
- Gokkon, B. (2014), "Mitra Keluarga Hospital Aims for \$300m in IPO This Year", <http://www.thejakartaglobe.com/business/mitra-keluarga-hospital-aims-300m-ipo-year/>, Accessed on 18 August 2014.
- GOV.UK (2014), "Guidance. Exporting to Indonesia", <https://www.gov.uk/government/publications/exporting-to-indonesia/exporting-to-indonesia>, 11 April 2014.
- ILKI (2014), "Ikatan Laboratorium Kesehatan Indonesia", <http://ilki-online.org/index2.html>, Accessed 7 August 2014.
- Indo Health Medical (2014), "About Us", <http://www.indohealthmedical.com/content/4-about-us>, Accessed 12 August 2014.
- Infodent International (2007), "Report on the Indonesian Market for Dental Equipment and Supplies in 2007", Published in INFODENT INTERNATIONAL n. 3/2007.

Insight Alpha (2014), "Industry Overview: Indonesia Healthcare Industry", http://insightalpha.com/news_test.php?cid=82&sid=75&nid=287, Accessed 12 August 2014.

The Jakarta Post (2012), "Pfizer expands into local generic drug market", <http://www.thejakartapost.com/news/2012/05/08/pfizer-expands-local-generic-drug-market.html>, 8 May 2012.

Karindo (2014), "PT Karindo Alkestron. About US", <http://www.karindo.com/profile.html>, Accessed 12 August 2014.

MAK (2014), "About Us", <http://mak-techno.com/english/aboutus.html>, Accessed 18 August 2014.

Manufacturing Chemist Pharma (2014), "Indonesian pharma market set to top US\$10bn by 2018, says Frost & Sullivan.", http://www.manufacturingchemist.com/news/article_page/Indonesian_pharma_market_set_to_top_US10bn_by_2018_says_Frost__Sullivan/100020, 9 July 2014.

MDDI (2014), "ASEAN Countries Could Be the Next Emerging MedTech Markets", <http://www.mddionline.com/article/asean-countries-could-be-next-emerging-medtech-markets>, Accessed 15 August 2014.

Medtech (2014), "Opportunities in ASEAN's Healthcare Sector", <http://www.medtech.sg/sea/>, Accessed 15 August 2014.

Nangoy, F. (2014), "Lippo Karawaci Earns Rp 858b In Siloam Hospitals Stake Sale", <http://www.thejakartaglobe.com/business/lippo-karawaci-earns-rp-858b-siloam-hospitals-stake-sale/>, 13 March 2014.

Osawa, J. & Van den Oever, R. (2013), "Samsung Extends Its Reach Into Healthcare", The Wall Street Journal, <http://online.wsj.com/news/articles/SB10001424127887323375204578271254100159598>, 30 January 2013.

Pharma Boardroom (2013), "Interview: Endang W. Hoyaranda, President Director, Prodia Group, Indonesia", <http://pharmaboardroom.com/interviews/interview-endang-w-hoyaranda-president-director-prodia-group-indonesia>, Accessed 18 August 2014.

PT. Andini Sarana (2014), "A Humble Beginning of a Thousand Miles Journey..", <http://www.andinisarana.com/#!/aboutus/cy2g>, Accessed 18 August 2014.

Shaughnessy, H. (2014), "In Healthcare, Apple Will Struggle To Match Huge Samsung Ambitions", Forbes, <http://www.forbes.com/sites/haydnshaughnessy/2014/06/11/in-healthcare-apple-must-square-up-to-huge-samsung-ambitions/>, 11 June 2014.

Siemens (2014), "Siemens in Indonesia. Healthcare Sector", http://www.siemens.com/about/en/worldwide/indonesia_1154624.htm.

Spire Research and Consulting (2010), "Export Market Opportunities for Healthcare Services in Indonesia".

TGI (2014), "About Trimed", http://www.tgi-indonesia.com/index.php?option=com_content&view=section&layout=blog&id=4&Itemid=63&lang=en, Accessed 18 August 2014.

UK Trade & Investment (2011), "Sector Briefing: Healthcare Opportunities in Indonesia".

UNICEF Indonesia (2012), "Issue Briefs. Water, sanitation & hygiene", http://www.unicef.org/indonesia/A8-_E_Issue_Brief_Water_Sanitation_REV.pdf, October 2012.

WHO World Statistics (2012), "Indonesia: health profile", <http://www.who.int/gho/countries/idn.pdf?ua=1>, Accessed 19 August 2014.

World Health Organization (2014), "Noncommunicable Diseases (NCD) Country Profiles", http://www.who.int/nmh/countries/idn_en.pdf, Accessed 19 August 2014.

WHO (2014), "Indonesia. Country Cooperation Strategy", http://www.who.int/countryfocus/cooperation_strategy/ccsbrief_idn_en.pdf Accessed 19 August 2014.

Yahoo News (2014), "Samsung Adds Healthcare Solutions to Its B2B Segment", <https://ph.news.yahoo.com/samsung-adds-healthcare-solutions-b2b-segment-063926875.html>, 24 February 2014.

Online References:

-
- ⁱ <http://www.antaraneews.com/berita/384663/anggaran-kesehatan-mendekati-37-persen-dari-apbn>
- ⁱⁱ Kruse I, Pradhan M, Sparrow R (2009) Health spending and decentralization in Indonesia. German Development Economics Conference
- ⁱⁱⁱ <http://www.thejakartapost.com/news/2010/12/01/decentralization-poses-threats-public-healthcare.html>
- ^{iv} <http://www.pdpersi.co.id/content/i.php?mid=2&id=95>
- ^v <http://pdgi.or.id>
- ^{vi} <http://www.idionline.org>
- ^{vii} <http://www.mayapadahospital.com/jakartaselatan/about.html>
- ^{viii} <http://www.id.novartis.com/about-history.shtml.htm>
- ^{ix} <http://binfar.depkes.go.id/v2/wp-content/uploads/2014/06/Prodis-Alkes-dan-Perbekkes.ppt>
- ^x <http://www.enseval.com/index.aspx>
- ^{xi} <http://www.mbs.co.id/>
- ^{xii} <http://www.anugrah-argon.com/>
- ^{xiii} <http://www.transmedic-ind.com/>
- ^{xiv} <http://www.surgika.com/>
- ^{xv} <http://www.thejakartapost.com/news/2014/01/15/number-ri-internet-users-increases-7119-million-2013-apjii.html>
- ^{xvi} <http://broadbandasia.info/wp-content/uploads/2014/04/Indonesian-National-Broadband-Initiative.pdf>
- ^{xvii} <http://m.thejakartapost.com/news/2014/04/08/it-gadgets-broadband-available-all.html>
- ^{xviii} <https://www.brighttalk.com/webcast/5565/100737>
- ^{xix} <http://www.slideshare.net/adeblonde/renstra-kemenkes-20102014>
- ^{xx} <http://www.onlinemastersinpublichealth.com/impressive-hospitals/>
- ^{xxi} <http://www.dpa.com.sg/projects/mrccc-siloam-specialist-hospital/>
- ^{xxii} http://www.dutchhealtharchitects.nl/wp-content/uploads/201211_booklet_dha_dhv%20S.pdf
- ^{xxiii} <http://www.thejakartapost.com/news/2011/09/26/islamic-medicine-rise-southeast-asia.html>

^{xxiv} <http://binfar.depkes.go.id/v2/wp-content/uploads/2014/07/BuKin-2013-Fix2.pdf>

^{xxv} <http://www4.bkpm.go.id/contents/general/117139/negative-investment-list>

^{xxvi} <http://www.pacificbridgemedical.com/publications/opportunities-in-the-indonesian-medical-market/>

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