

WHITE PAPER REPORT

Healthcare Industry of Vietnam



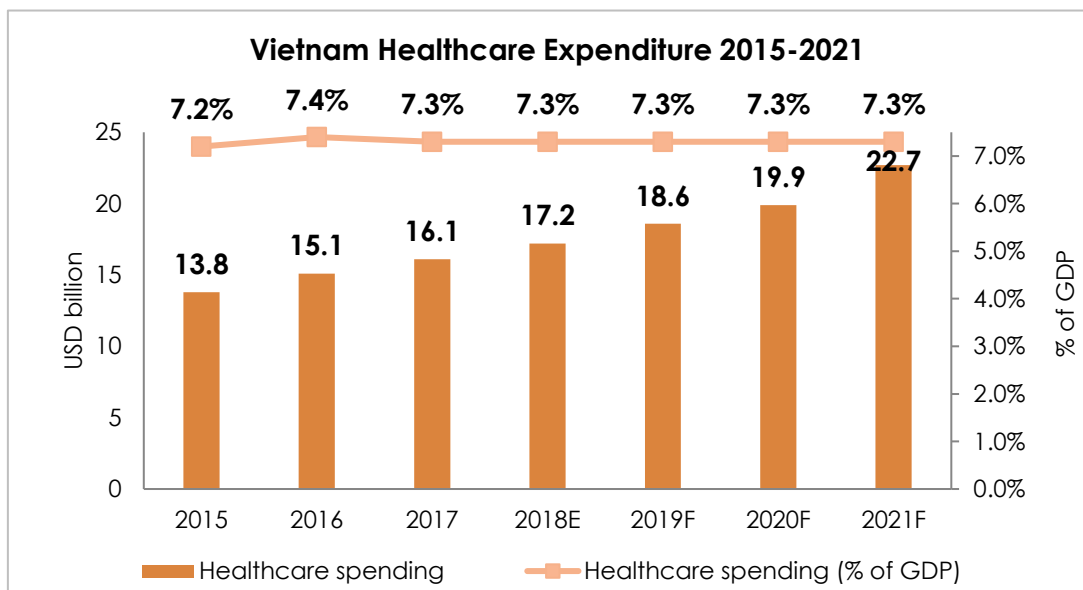
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1. Overview of Industry

1.1 Growth of Healthcare in Vietnam

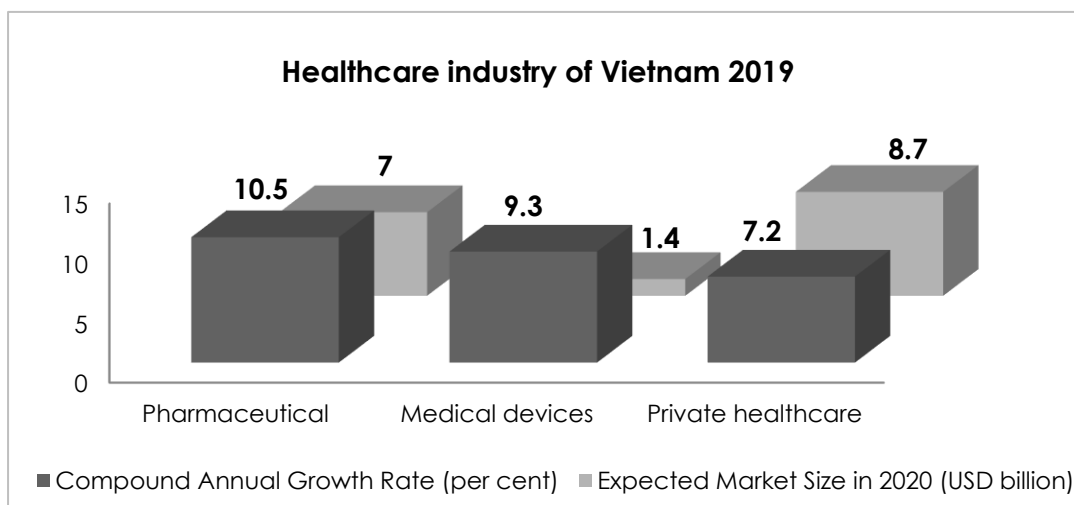
While the growth rate of the economy is expected to decline marginally at a compound annual growth rate or CAGR of 6.7% by 2020, healthcare expenditure is expected to grow to USD 22.7 billion by 2021 at a CAGR of approximately 12.5% from 2017 to 2021.



KPMG, 2017

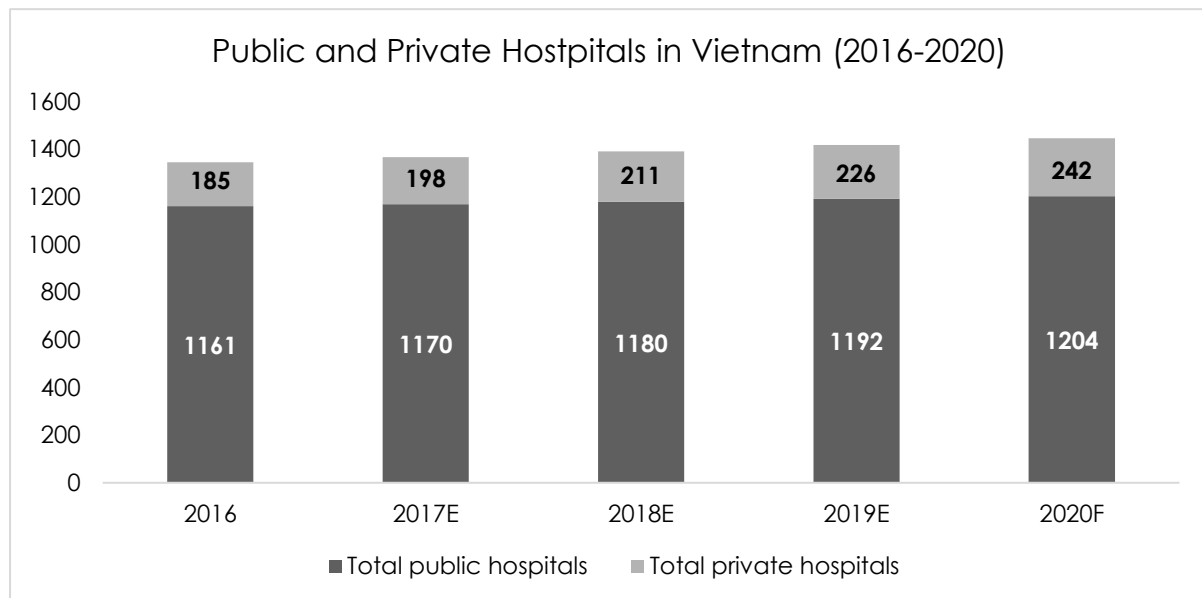
Two key factors contributing to the rise in healthcare expenditure are:

- Improved investments through Public-Private Partnerships (PPPs).
- Increased pharmaceutical sales and improvement in medical devices.



Vietnam Briefing, 2019

The healthcare industry showed consistent growth in the last few years, due to key factors such as life expectancy, which increased from 75.00 years in 2013 to 75.24 years in 2017. As a result of this, the portion of the aging population in Vietnam has increased. The share of the elderly population is forecasted to reach 17% by 2040. Chronic diseases are likely to affect the older population. This led public hospitals to establish special departments for this segment of the population, and upgrade their existing facilities to better suit their needs.



KPMG, 2017; Spire Estimates, 2017

In Vietnam, the Ministry of Health (MOH) authorizes hospitals to function independently at all levels – central, provincial, district and commune. Public healthcare infrastructure has improved overtime as the public healthcare industry grew at a CAGR of 17.2% from 2011 to 2016. The industry is expected to grow further at a CAGR of 9.5% between 2016 and 2021. The key growth drivers for public healthcare are the social insurance scheme introduced by the government in 2012, and increased public and private partnerships in Vietnam's healthcare segment.

2. Growth Factors in Healthcare

2.1 Chronic diseases among aging population

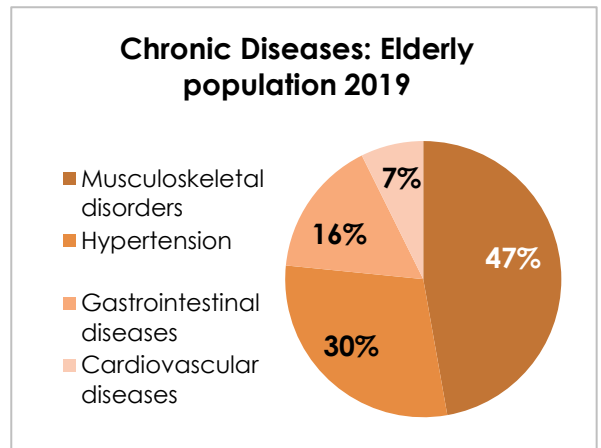
The older population of Vietnam is seeing an increase in chronic musculoskeletal disorders, hypertension and gastrointestinal diseases. Other chronic conditions on the rise include Alzheimer's Disease, malnutrition and depression, increasing the demand for long-term medical assistance.

In Vietnam, 47% of the population above the age of 65 has musculoskeletal disorders, followed by hypertension at 30% and gastrointestinal diseases at 16%.

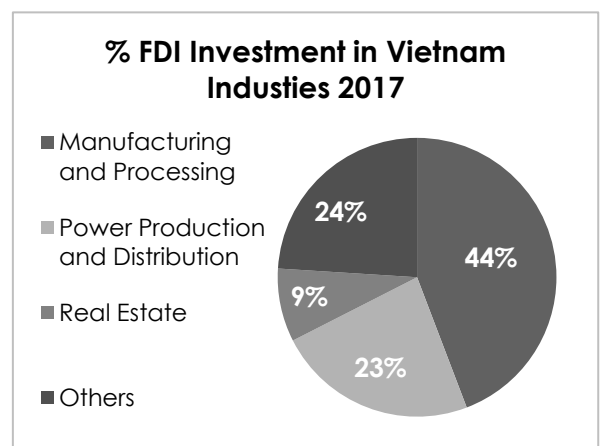
2.2 Better investment opportunities

Vietnam is transforming into an investment hub for foreign firms from China, Japan, Singapore, Hong Kong and South Korea. From January to May 2019, the country received substantial Foreign Direct Investment, with the largest share coming from Hong Kong at 30.4%, followed by Singapore and South Korea. Currently, a driving factor for these investments is US-China trade tensions, which has led to China becoming a crucial investor in Vietnam. The increased investments in the country stemmed from cheaper costs of setting up manufacturing units, cheap labor and attractive government incentives.

Manufacturing and processing, real-estate and retail are the fastest growing sectors, receiving most of the FDI in Vietnam. The healthcare industry has also attracted private investments, as Mergers and Acquisitions (M&As) increase for hospitals in major cities like Hanoi and Ho Chi Minh City (HCM City). For example, in 2018 Nha Khoa My was acquired by South Korean giant Sun Medical Center. Sun Medical Center was the first to buy out a Vietnamese dental clinic. One-fourth of the total population of Vietnam resides in HCM City, which has over 100 hospitals.



Spire Estimates, 2019



Vietnam News, 2017

Migration of the rural population to major cities like HCM City and Hanoi has increased the demand for improved healthcare facilities in these urban areas.

2.3 Digitization in Healthcare

Vietnam is currently adapting to Industry 4.0 which gives rise to e-health services. E-health is becoming more accessible to the population. In the last two decades, a Vietnamese technology giant, FPT Corporation, contributed to the e-healthcare system of Vietnam through its FPT eHospital software. This software uses machine learning and artificial intelligence to

improve the operations of hospitals in Vietnam. The company catered to 200 hospitals, resulting in improved logistics and payment processes. For example, Vinh General Hospital saw improved patient turn-over from 300-500 patients per day to 1,600-1,800 patients per day.

The MOH and FPT Corporation signed an agreement for digital support in Vietnam's healthcare system and for better adapting to Industry 4.0. An Electronic Healthcare Record (EHR) systems was introduced, storing a patient's information from birth to date and offering a unified platform for storing medical records. Vietnam's rising urban population depends substantially on e-health platforms as its population is sufficiently aware of the benefits of these services.

3.Challenges in healthcare

3.1 Over-crowding in city hospitals

The hospitals in major cities, like Hanoi and HCM City, are currently facing over-crowding issues. These hospitals cater to both the local and the migrant population of Vietnam. The main reason for over-crowding is that many Vietnamese prefer getting treated in city hospitals as they are better equipped and provide better medical treatment. This over-crowding results in extended waiting hours in hospitals. According to The Institute of Medicine, 90% of the appointments should be covered by doctors to reduce waiting time to 30 minutes per patient. However, in Vietnam, the waiting time is between 2 to 4 hours per patient. The patients need to wait longer to receive better medical treatment.

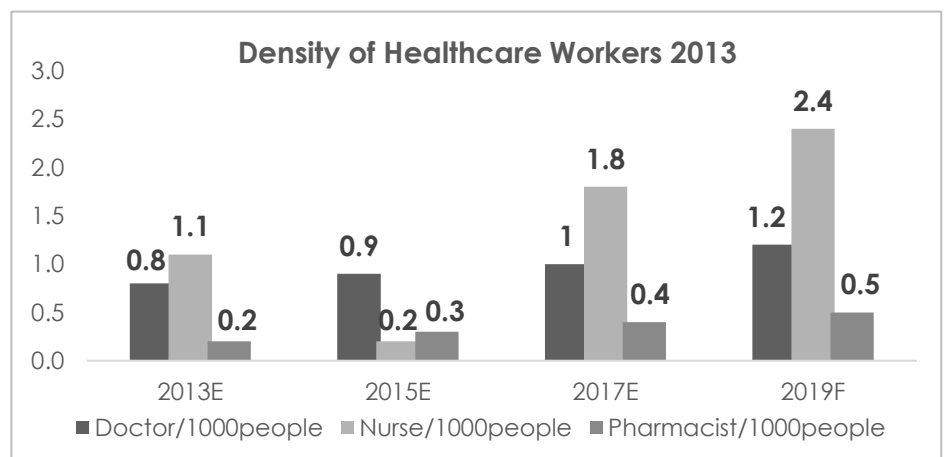
3.2 Public healthcare infrastructure

In the majority of Vietnam's Tier-2 city state hospitals, the existing equipment lacks reliability and is obsolete. Hospitals do not have the required medical equipment to perform intensive care and surgeries at an optimal level. This problem primarily stems from their dependency on state-budgets to sponsor better medical facilities. Although the total healthcare expenditure showed improvement, it was insufficient to meet the overall healthcare demand of the Vietnamese population. According to the MOH, in 2018, 40,000 Vietnamese citizens traveled to neighboring countries like Thailand, Malaysia and Singapore for better healthcare.

3.3 Shortage of skilled-medical staff

Public hospitals in Vietnam lack skilled professionals and qualified nursing staff to meeting the rising demand for better healthcare. One reason for this shortage is the current government regulation that only allows departments, state offices and public establishments to employ

staff from HCM City's household registration book. Several public hospitals, including Hospital for Tropical Diseases, Phạm Ngọc Thạch Hospital, Cần Giờ District hospitals and Củ Chi, face a serious shortage of medical staff



Ministry of Healthcare (Vietnam) 2013

due to this regulation. The graph below shows the number of doctors, nurses and pharmacists available per 1,000 people. According to the MOH, the number of doctors per 1,000 people in Vietnam is forecasted to reach 1.2 in 2019, from 1 per 1,000 in 2017. The MOH introduced a policy of doctor-rotation among commune health clinics that are currently facing shortage of quality healthcare staff.

4. Government regulations supporting Healthcare

In Vietnam, the MOH is responsible for managing all state healthcare operations. The Ministry covers the following segments:

- Preventive medicine
- Forensic medicine
- Rehabilitation and Treatment
- Medical equipment
- Public healthcare services

4.1 Social Healthcare Insurance Scheme

In 1992, the MOH initiated a Social Health Insurance (SHI) scheme to provide financial support to the Vietnamese population. To avail this scheme, the government categorized Vietnam's workforce into the following member segments:

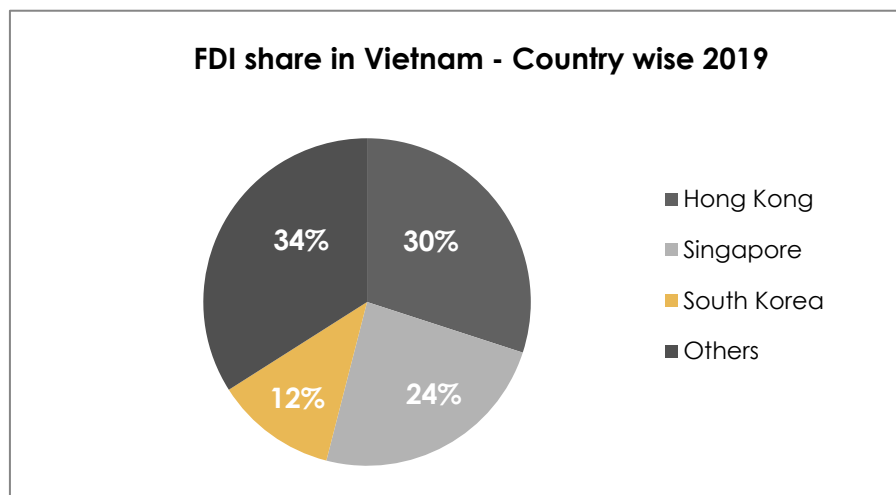
Group	Members	Premium level	Contributive responsibility
1	Workers in formal sectors	4.5% of monthly salary	Employers contribute 3%, employees contribute 1.5%
2	Pensioners	4.5% of pensioner salary	100% paid by the social security agency
	People on working capacity loss allowance	4.5% of working capacity loss allowance	
3	The poor, minorities, and children under 6 years of age	4.5% of monthly minimum salary	100% subsidy by the government
4	The near-poor	4.5% of monthly minimum salary	70% subsidy by the government
	Pupils and students	3% of monthly minimum salary	30% subsidy by the government
5	Workers in informal sectors	4.5% of monthly minimum salary	100% paid by covered person
	Other members of households	4.5% of monthly minimum salary for the first person; 70, 60, and 50% of the premium rate applicable to the first person, for the second, third, and fourth persons, respectively; 40% of this premium rate for the fifth or additional persons	

NCBI, 2017

The scheme was able to cover 68% of the population in 2013, and aims to target 84% of the population by 2020. It allows citizens to avail themselves of medical insurance at both public and private hospitals. The government provided a list of hospitals through which citizens can opt for their place of treatment. The government then provides the patients with medical insurance cards, which are accepted at all registered hospitals. The card holds information about the patient, such as medical records and the category of population they fall under. The scheme is mandatory for formal-sector workers as they largely depend on the government for financial support. Depending on the category of the patient, the government can cover 80% to 100% of the medical expenses through the scheme.

4.2 Public-Private Partnerships (PPPs)

Overall, Vietnam showed robust potential for public-private partnerships across industries including healthcare, transport and education. In the healthcare segment, the inadequacy of public equipment and medical resources pushed the demand for private investment. In Vietnam, private firms can support public healthcare institutes by bringing in modern equipment and skilled medical professionals to meet the increasing demands.



Spire Estimates, 2019

In the last few years, multiple foreign firms purchased stocks of public hospitals in Vietnam to further improve their healthcare services footprint in the country. Firms such as Hoan My Medical Corporation, supported by a Singaporean firm, acquired Hanh Phuc Hospital and Huu Nghi General Clinic in Vietnam. These partnerships benefited public hospitals as they reached out to a larger network of patients. The foreign firms benefit through increased patient count which ultimately increases their profitability. A rising aging population seeks longer medical treatment and better equipment, improving the scope of private investments in Vietnam. The

foreign firms also benefit from attractive government incentives and ease of entering the Vietnamese healthcare market.

4.3 National Development Strategy

The MOH introduced the Vietnam Sustainable Development Strategy and Goals for 2011-2020. These are:

- Improve the quality and quantity of healthcare services, and reduce lead times in the healthcare delivery process.
- Prioritize proactivity to control epidemic diseases effectively.
- Promote public healthcare with the help of increased stakeholders and improved healthcare models.
- Focus on basic healthcare services for all.
- Provide better quality of rehabilitation centers at all levels.
- Improve the condition of overcrowding in central hospitals by upgrading infrastructure of public hospitals.

Work on the quality of human resources for all kinds of workers and also support in training community health workers and medical technicians.

5. Analysis of Major Players

The revenue from the healthcare market of Vietnam is expected to increase to USD 18 billion by 2020. PPPs have pushed private firms to further increase their market share in the healthcare industry of Vietnam. Some of the key players in this segment are described in this section.

5.1 Franco-Vietnamese Hospital

Franco-Vietnamese Hospital (FV Hospital) started its operations in 2003. It offers a 220-bed hub with 950 specialized service staff. The hospital operates in HCM City and serves the local population as well as neighboring countries like Myanmar and Cambodia.

Market Position

Services

The hospital is known for its specialty services in cardiology, bone and joint treatment, and cancer care. They offer medical services such as accident and emergency services, general practice and family medicine, and other support services. Their surgical services include general and thoracic surgery, vascular surgery and phlebology. The hospital also offers general healthcare checkups.

Financial Data

- The hospital treats 200,000 patients annually, providing quality medical treatment with 30 specialized medical services. Quadra Capital, an Asian healthcare investment firm, is one of the recent investors in the company, holding 18% share. The hospital is expected to become one of the well-equipped hospitals in Vietnam.
- "FV Hospital is a private hospital, 100% foreign-owned by a Hong-Kong parent company, the ownership of which is composed of Medical Founders Holding, the company of the 10 Founders including Dr Jean-Marcel Guillon, CEO, and of Quadria Capital, Asia's leading private healthcare investor."

Number of hospital beds: 220

Number of doctors: 950

5.2 Japan International Eye Hospital

Established in 2014, Japan International Eye Hospital aims to treat patients from Hanoi and the northern provinces of Vietnam. The hospital is best known for using high quality medical equipment for treatment. It was recognized as the first hospital in Vietnam to use the Mel 90 System, manufactured in Germany, to improve the accuracy and performance of the machine by almost 90%.

Market position

Services

- The hospital offers quality treatments that include eye checkups and eye examinations with the help of advanced medical equipment. Japan International Eye Hospital also specializes in LASIK surgery, phakic surgery, cataract surgery and vitrectomy.
- The company is equipped with modern medical devices including Constellation and Lumera OPMI, Mel 90 and Visumax which was manufactured by Carl Zeiss of Germany. These devices have improved the surgical process, ultimately increasing the number of surgeries performed in a day.
- The clinic became one of the first hospitals in Vietnam to use Mel-90, a German medical device recognized highly for its accuracy and speed.
- It was also among the top three companies to successfully use Visumax in LASIK surgery.

Number of doctors: Team of 3 specialized ophthalmologists in Vietnam, namely Prof. Dr. Tadashi Hattori, Dr. Bui Tien Hung and Dr. Dao Minh Duc.

Cho Ray Hospital

Governed by the MOH, Cho Ray Hospital is one of the largest general hospitals in Vietnam. The hospital began operations in 1900 with the support of special grants offered by the government of Japan. It caters to the population of southern provinces of Vietnam, especially through its training institute.

Market Position

Services

- Cho Ray hospital is widely known for the training programs it offers. The hospital is affiliated to the HCM City Medical University, offering mentorship and training programs

to over 2,500 students annually. Their specialized programs help doctors offer better quality healthcare services to the Vietnamese population.

Financial Data

- Also known as the Vietnam–Japan Friendship Hospital, it aims to open the second Cho Ray Minh hospital in HCM City, estimated to cost approximately USD 287.9 million.
- Cho Ray Hospital partnered with Westmead Hospital and Royal Prince Alfred Hospital (Australia) to offer high-end cross-regional training services in Vietnam.

Number of beds: 1,200

Number of doctors: 600

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