



The post-Covid leapfrog: How Southeast Asia is ready for a healthcare revolution

A discussion paper for accelerating healthcare innovation in Southeast Asia - prepared by the TVM Capital Healthcare Southeast Asia Leadership and Advisor Team

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Executive Summary

As an emerging markets healthcare investor, TVM Capital Healthcare bases its investments on extensive research into trends that are gaining traction. In this paper, we have brought together many of the top-line views of our Southeast Asia experts to paint a vision of the healthcare sector's future, and some of the changes that the global Covid-19 pandemic will bring:

1. Covid-19 will move Southeast Asia away from a hospital-centric care model

Covid-19 is likely to accelerate a global trend towards patient-centric model of care, and away from hospital-centric models, which has been driven by beneficial patient outcomes and constraints in hospital capacity. In Southeast Asia, this transition is in its infancy, but will gather pace as patients are becoming more inclined to avoid hospital stays whenever possible. We believe there will be a growing separation between ancillary functions such as imaging and lab tests, and core hospital operations focused on inpatient care. Patients will also choose ambulatory care settings rather than hospitals for increasingly complex care and procedures.

2. Specialism is the way forward

Ambulatory centers, labs and specialist inpatient facilities are all taking root in the region and proving popular. This trend will be complemented by increased provision of specialist centers, for example for pediatrics, obstetrics and gynecology, and in response to demand for high quality post-acute care for chronic diseases, such as diabetes and cancer. Home-based care is likely to gain traction due to the region's rapidly aging demographic profile, and in line with traditional practice of caring for the elderly in a family setting. We see private investment complementing public investment – including through innovative partnerships between private and public sectors.

3. Digital applications in healthcare will accelerate

Covid-19 pandemic has already increased the use of “telemedicine” through video consultations, and we believe it is here to stay. Growing urban communities and aging populations are spurring demand across Southeast Asia for better chronic healthcare quality and delivery, especially in post-acute and home-based healthcare. We expect to see increasing provision of online consultation activities, requiring more input of clinical information from specialized facilities. Telehealth and home healthcare services will also gain ground. They will require investment in AI-based diagnostics, and digital tools, including cloud-based storage of medical records, and integration of information across the care continuum.

4. A closer look at selected countries in the region

- Singapore
- Thailand
- Malaysia
- Vietnam
- Indonesia
- Philippines

5. TVM Capital Healthcare in Southeast Asia

TVM Capital Healthcare is a specialist private equity firm that invests growth capital in transformational healthcare companies operating in Southeast Asia and the Middle East. By helping to fulfil unmet healthcare needs, the company's activities complement national healthcare systems.

Our approach is to take a hands-on approach in supporting companies to ensure they are resilient to economic and market volatility. We place a strong emphasis on implementing best-practice corporate governance and deploy healthcare experts from our network of industry specialists to ensure operational excellence.

TVM Capital Healthcare's investments are driven by extensive research to ensure that we meet gaps in healthcare provision. The company has invested in specialist healthcare providers, for example post-acute rehabilitation and home care, and our portfolio companies are putting technology to use in new ways to better serve their patients. We passionately believe that digital and precision health will bring affordable, specialized care to a wide cross section of the population in the coming years, complementing public hospital-based systems. www.tvmcapitalhealthcare.com



Dr. Helmut Schuehsler, CEO & Chairman, has raised more than USUSD1bn in committed capital from more than 50 international investors, has overseen more than 120 investments in the health and life science market, and more than 50 IPOs and 30 M&A exit transactions. He leads the investment activities of the firm in SEA and MENA. He is based in Singapore and Dubai.



Preamble: Important choices on the future of healthcare

Covid-19 is at its heart a health issue, but the global pandemic will have wide-ranging economic and societal repercussions for years to come and may well change the way we live for good.

For the global healthcare sector, this experience will certainly lead to fundamental change – and this was set in motion as soon as a pandemic was declared. Healthcare will remain in the spotlight, its key workers rightfully celebrated, and policy makers will need to make big calls on how much to invest, and in which areas. They will need to provide protection against infectious diseases such as Covid-19, but also serve their populations in the context of aging demographics and the increasing prevalence of non-communicable diseases.

While Southeast Asia has so far been relatively lightly impacted directly by Covid-19 infections, the region faces important choices on the future direction of healthcare provision.

The quality of local healthcare provision ranges from good, but with key gaps for the urban middle class and poor, to near non-existent for urban poor and rural communities in some locations. Added to this, the region faces a shortage of health workers – with the WHO forecasting a 4.7 million shortage for Southeast Asia by 2030. With minimal insurance or state payment cover, millions are just one major illness away from financial catastrophe.

At the same time, the region has a rapidly aging population, caused by falling birth rates and rising lifespans. In Thailand, one in four people is expected to be a senior citizen by 2030, while in Singapore, 32 % of the population will be over the age of 65 by 2035. This trajectory indicates that the disease burden is likely to continue shifting to non-communicable diseases such as dementia and diabetes, which require costly long-term treatment and care.

The lessons from the global pandemic should have a strong bearing on the responses to these pressing issues. However, Southeast Asia spends less than half the amount on public health as a %age of GDP when compared to the rest of the world, and the global recession stemming from Covid-19 will put extra stress on public finances. Private operators can step in to take a greater role, particularly in specialist and remote care, but payment models may need to change to provide the required incentive.



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From a hospital-centric model to patient-centric specialist centers

Covid-19 is likely to accelerate a trend towards a patient-centric model of care, and away from hospital-centric models, which have until now dominated the healthcare landscape in Southeast Asia. The experience of the pandemic has made patients across the world reluctant to enter a hospital if it is not absolutely necessary, which is very often the case. For example, a UK hospital bed audit conducted in 2015 found that 50 % of bed days could theoretically take place in other settings.

Covid-19 has shown that freeing up hospital beds, and ICU places in particular, is vital. When it comes to around-the-clock intensive monitoring and treatment, the priority must be given to patients who are severely ill or medically unstable and have a potentially life-threatening disease or disorder.

Treating patients that do not require this type of care in a hospital is also costly for healthcare systems across Southeast Asia, and would be more effectively carried out in ambulatory and specialist centers, which are likely to take a larger share of complex care and procedures in the coming years. The move away from hospitals will also extend to ancillary functions such as imaging and lab tests, and this separation is being fueled by demand for more capacity for diagnostic testing in response to Covid-19. Such services will require input of clinical information, which will be increasingly collected through remote facilities, such as pharmacies, imaging centers and pathology labs. Demand for more accessible, high quality care will drive growth in specialist healthcare providers across Southeast Asia. There is high potential for expansion of clinics that focus, for example, on pediatrics, obstetrics, and gynecology, or respond to the growing need for high quality post-acute care for chronic diseases, such as diabetes and cancer.

Home care fits well with region's traditions

Healthcare providers will also increasingly move care into patients' homes. This complements Southeast Asia's traditional approach of caring for the sick and elderly in a family environment and in familiar surroundings. Furthermore, in countries where home care has taken off, it has proven popular among elderly patients that are unable to travel to hospitals on their own, particularly when many working-age adults are absent due to work commitments.

Home care is a convenient, safe option that perpetuates resilient, self-reliant communities. It also protects patients against additional risks such as hospital-acquired infections and hospital-induced stress. But in order for the model to work, non-hospital healthcare providers need to further meet patient needs. This means more specialized training, knowledge sharing amongst staff to provide easy access to ideas and diagnostics, regular patient monitoring, and resources on standby if patients' needs escalate rapidly.

Digital solutions in healthcare will accelerate transformation

Adoption of digital and artificial intelligence (AI) solutions will facilitate the move to specialist and home care provision, and the experience of video during the Covid-19 pandemic has already spurred greater adoption of remote consultations.

The logistics of healthcare provision in the 10-country ASEAN region, which counts a population of over 600 million dispersed over a large geography, makes digital healthcare applications linked to access to healthcare and therapies as well as monitoring, highly attractive.

Public and private healthcare providers across Southeast Asia have started to deploy digital technologies, and the region has an opportunity to leapfrog the developed world's traditional healthcare systems. We view digital solutions in the areas of access, diagnostics, monitoring, workflow, and process management, as well as supply chain management as key areas of building future-ready and resilient healthcare companies. Every healthcare company, regardless of vertical, must have a digital strategy with regards to the above-mentioned fields of applications, to be able to succeed.

Digital tools to facilitate remote communication between providers and patients are already starting to take root in the region's top hospitals, and will continued to be developed and improved, together with home-based monitoring devices. Technological adoption in the region in the coming years will include AI-based diagnostics, cloud-based storage of medical records, and integration of information across the care continuum. Wearable robotic devices have been developed, which use machine learning and deep learning to track patients' health remotely, deliver tips, and remind them to take their medicines.

This technology however is far away from being adopted on a mass scale. While China and the US lead in global AI deployment, some Southeast Asian countries are building the foundational digital infrastructure and data ecosystems needed to realize the opportunity.



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A closer look at selected countries in the region

Singapore

- Singapore's healthcare system is ranked among the top in the world with regards to quality of services and treatment options, while still being relatively 'low cost' when compared to leading healthcare systems in many developed economies.
- The public sector dominates Singapore's healthcare service delivery, accounting for 80% of market share in the secondary and tertiary care sector, but only a 20% share of the primary care sector. It is organized around three integrated public healthcare delivery networks offering a comprehensive suite of outpatient and inpatient services, from primary to tertiary care. Each network is affiliated to a University Medical School, Nursing and Allied Health education and training resources, plus research laboratories covering a range of clinical and scientific investigations.
- In the private sector, there are only a handful of hospital groups, but a wide range of private medical and dental clinics, imaging and clinical laboratories, TCM, physiotherapy and other complementary health services. Several specialist groups have taken the public listing route to monetize their assets. Nursing homes, aged care and hospice facilities are predominantly managed by non-profit organisations and rely on government subsidies and philanthropic donations. A couple of private nursing homes are also owned by listed entities.
- The Ministry of Health is in the process of updating its Healthcare Services legislation, which is phased to take effect from the end of 2021 onwards, and broadens regulatory coverage over services such as home-based care and telemedicine services.

Singapore's response to Covid-19

Singapore's early efforts at contact tracing and isolation were widely seen as the 'gold standard' of near-perfect detection, and the country's efforts to communicate policies to the public, especially during the first wave of the Covid-19 pandemic, was lauded by the international public health community.

Much of the country's first line response to Covid-19, including effective management of patients, limiting of fatalities and activation of an extensive contact tracing system, stems from the painful experience with SARS in 2003. This led to early investments in an infectious disease outbreak management, manpower training and infrastructure development. It enabled Singapore's administration to set up a strong and rapid response framework to combat Covid-19 from the outset. These efforts resulted in an exceptionally low mortality rate and an equally low transmission rate amongst Singaporeans and permanent residents.

However, from March, Singapore experienced rising rates of infection and the emergence of 'infection clusters,' mainly among migrant workers, and it became clear that the risks stemming from densely populated worker dormitories had been initially under-estimated. This eventually prompted a redoubling of the government's Covid-19 response efforts, whereby both public and private sector

resources were mobilized to create temporary quarantine facilities to re-house, feed, provide healthcare and test each and every one of the 230,000-plus migrant workers. The unfortunate turn of events threw the spotlight on a gap in understanding and awareness of the overall living conditions in crowded worker dormitories and reflected societal undercurrents. It resulted in the government raising building and other regulatory standards, and voluntary efforts by citizens' efforts to support migrant worker care.

A silver lining to the Covid-19 cloud has been the speed and emergence of innovation, with Singapore's decades-old investments in healthcare, biomedical sciences, and R&D investments yielding dividends. Several new discoveries and inventions have been rolled out, including novel diagnostic tests, vaccine candidates, locally designed ventilators, disinfection robots, swabbing booths, to name a few.

Drivers for private healthcare investment

Singapore has achieved universal health coverage through a mixed financing system which evolved from the original "3M system" of healthcare financing – Medisave, Medishield and Medifund. Medisave is a compulsory individual medical savings account system within the Central Provident Fund, tied to a national health insurance scheme Medishield, which allows individuals to "top-up" with rider plans, offered by private insurers. This system imposes a co-payout of an individual's Medisave savings, beyond which the insurer's reimbursements kick in. It covers almost all inpatient services at public and private hospitals, but for outpatient services, only a limited amount is covered. As a result, the out-of-pocket cash payment component is still substantial at 32.13%, according to the [World Bank](#). Hence, "income-qualified demand" is an important driver when planning investment in the provision of private healthcare services that are not covered by insurance.

Singapore has the fastest aging population in Asia, and the rise of non-communicable diseases (NCDs) is impacting care services and how they are provided. Several emerging trends have been accelerated by the Covid-19 experience. For example, digitalization and optimization of the patient journey have become key drivers for development of services. Elderly patients, especially those suffering from chronic conditions, are increasingly utilizing remote care services and home care services.

Culturally, institutionalized elder care has been regarded as shameful to the family, and a last resort. However, attitudes are gradually change with the evolution of new residence-based senior care models combining attractive real estate and personalized care services. There is currently inadequate long-term care insurance available, but if this gap is plugged, future demand for residence-based senior care will be fueled. The upcoming launch of CareShield Life to replace ElderShield, which will offer protection against the uncertainty of long-term care costs, is a step in the right direction.

There is widespread acknowledgement of the importance of an effective primary care physician, who is community-based, and can help patients navigate access to specialists as well as to the complex secondary and tertiary care sectors. Technology may come to the rescue here, as providers look towards population health models to use AI-driven algorithms and disease pathways to optimize care and cost options for patients. This fits well with several public health priorities, from environmental sustainability to promotion of healthy lifestyle and personalized medicine.

Healthcare investment opportunities

The burgeoning biotech, medtech, and digital health sectors where over 300 local companies have been created in recent years presents an attractive pool of investment opportunities. Technologies developed in Singapore can find testbeds and trial sites in the public healthcare system, as the government has created numerous schemes to facilitate this "bench to bedside" product and service development cycle. In many respects, it was the initial investment in Singapore's universities and research institutes, well-funded through block and competitive grants, that has created a successful milieu from which the emerging use-inspired research can be put to test. The Singaporean

government has in effect underwritten part of the technology development risk and encourages private healthcare investment opportunities in commercialization pathways into healthcare delivery, to improve patient outcomes.

Singapore also offers a premium launchpad into the ASEAN region, and therefore any commercialization opportunities should naturally target the region's under-served healthcare markets. This builds on Singapore's historical position as the premier medical hub of Asia, which still attracts a fair number of "medical tourists" who seek high-end treatments. Examples such as the da Vinci robotic surgery, rare cancer therapeutics and the upcoming proton beam therapy come to mind. With Covid-19 inhibiting travel, the market for medical tourism has been disrupted, and is now in need of re-invention – and will potentially be redirected towards affluent Singapore residents who would have sought high-end care elsewhere.



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Thailand

- Thailand has a stable and competent public healthcare system
- Thailand does not permit non-Thai healthcare professionals to work in the Kingdom and as a result it is quite "insular" in its manpower supply. There are no acute shortages of healthcare personnel with the possible exception of physicians in areas outside the capital of Bangkok.
- Thailand enjoys a reputation as a premier target for medical tourism treating the largest known quantity of foreign patients in the world. Foreign patient treatment is almost exclusively provided in private hospitals and concentrated amongst a relatively small number of top proprietary hospitals, most of which are in Bangkok.
- Primary drivers for Thailand's popularity have been 1) Access (ease of access and instant appointments with a full array of doctors); 2) Service (exceptional hospitality and a country geared for tourism); and 3) Value with relatively low costs compared with traditional Western options. Cost differentiation has been eroded over the past 5-7 years with extraordinary price increases amongst the key players.
- Thai private healthcare remains a largely cash business bucking trends in other SE Asian countries where third party insurance is increasing its presence.

Thailand's response to Covid-19

Thailand took aggressive action in late March 2020 to close international routes, lock-down high-risk areas, close public gathering areas, etc. As a result, protective Covid compliance is high and aggressively policed. Hospitals have not been particularly stressed and use of intensive care units has not been excessive.

Many potential reasons have been given for low infection and mortality rates. They include societal factors, such as the widespread practice of caring for the elderly in a family setting rather than care homes, and the use of the traditional “wai” greeting that avoids physical contact. Medical reasons have also been suggested, including possible common vaccination for tuberculosis, which is theorized to hold certain limited protection to other viruses, and the relatively low incidence of high-risk factors such as obesity, diabetes, and hypertension.

Drivers for private healthcare investment

Private sector care is centered on Bangkok, catering to a growing middle class and to overseas patients, with “medical tourism” offering that has thrived due to relatively low costs, service levels akin to the hospitality industry, and ease of access to a roster of highly qualified doctors.

However, even before Covid-19 restricted international travel, the medical tourism sector at Bangkok's top hospitals was experiencing a decline. This was driven by a rapid rise in prices over the last five years, increased competition from regional rivals, and development of higher quality care in traditional markets in the Middle East.

The global pandemic is certain to further impact the willingness of patients to be treated in unfamiliar and distant surroundings. International patients provided between 20% and 55% of the revenue of the top five players in this market in Thailand, and this income has simply disappeared overnight and may never return to pre-Covid levels.

The decline in medical tourism had already persuaded private hospitals to focus increasingly on the domestic market, and this trend is likely to gather pace. A raft of second-tier providers are increasing competitive pressures by offering “five star care at three star prices”, often charging 30% less than the top hospitals. Meanwhile new entrants, which range from industrial conglomerates to real estate companies, are looking to do the same, albeit with greater difficulty given the high costs of greenfield development.

In the new landscape, Thai domestic patients will increasingly become “value-seekers”, particularly given the stressed economy and the emergence of new hospitals and second-tier providers. Pricing will become more transparent and important in-patient decision-making as cash remains the primary method of payment for healthcare, given the slow growth in insurance and a third-party payer model.

Healthcare investment opportunities

With high-end private hospitals operating at less than 65% occupancy, and second-tier healthcare providers and new entrants ratcheting up competitive pressures, the private hospital market will be overcrowded for the foreseeable future.

The most attractive opportunities for new investment are in specialist care, such as sub-acute care and rehabilitation, where there are no current leaders in the market. For example, the economic pressures stemming from Covid are expected to result in a sharp increase in alcoholism and drug dependence, but rehabilitation and care in this area is undeveloped in Thailand, and largely limited to local centers with low standards.

Top Thai hospitals are investing in their own proprietary solutions, but second tier providers are likely to become increasingly interested in wide-use apps for full mobile access to medical consultations and

care. Furthermore, with the global trend towards home shopping gathering pace during the Covid pandemic, there is an opportunity in Thailand for home delivery of pharmaceuticals and other healthcare items and services driven by increased price sensitivity and use of popular sites such as Alibaba and Lazada.



Curtis Schroeder, Senior Advisor and Global Healthcare Executive has worked with Carl Stanifer on many healthcare projects in the region. He is an accomplished healthcare executive with over thirty-five years of senior management experience in acute hospital, international hospital, ambulatory care and academic medical center management based in Thailand.

Malaysia

- Malaysia is heading towards being a aging society. It continues to suffer the double whammy of infectious diseases such as dengue plus non-communicable diseases - hypertension, diabetes.
- The private sector has overtaken the public sector in terms of investment in new facilities and technologies even though it sees a much smaller proportion of overall patients compared with the MoH hospitals

Malaysia's response to Covid-19

Two months after Malaysia's first case was recorded on January 25, some 1,762 cases had been recorded locally. Two months further on and there had been 7,417 confirmed cases and 115 deaths. This has placed Malaysia's health system, particularly public hospitals, under considerable strain. A third 'tsunami wave', according to Ministry of Health director general, Dr Noor Hisham Abdullah, could easily flood Malaysian healthcare facilities and result in numerous fatalities, not least among the elderly and persons with chronic health conditions. Public compliance with Ministry of Health (MOH) testing policies and movement restrictions will be crucial to preventing a new and sweeping wave of infections from gathering momentum. There has been a drastic drop in attendances at MoH and private hospitals. Elective procedures and follow up visits have been delayed - which meant a huge and negative impact on earnings at the private hospitals.

Drivers for private healthcare investment

Malaysia technically speaking has universal healthcare that is provided by a network of hospitals run by the Ministry of Health: secondary and tertiary care hospitals and one cancer hospital (IKN) and to a lesser extent, by the Ministries of Education (university hospitals) and Defence (military hospitals). There is also a specialist cardiac hospital (IJN) that is a corporatized entity owned by the Ministry of Finance. Outpatient clinics are provided in Klinik Kesihatan that are located in cities and town; specialist outpatients are done in the Hospitals itself. In the past decade there has been a move towards training doctors in Family medicine so that they can take on the load of follow up especially of the volume of NCD cases and thereby reduce the load on the hospitals.

The MoH also provides a network of 'Klinik Desa' that provide antenatal care and some general Paed services. Childhood immunization and vaccination programs have been almost 100% though in the recent years there has been an anti-vaxx movement - not just the fears of autism, but also whether

vaccines are halal. Care at these MoH hospitals is almost free at the point of service, which is 95-98% subsidized by general income tax and other allocations. Anecdotally we do hear of patients needing to purchase their prostheses if they are to have elective surgeries for joint replacements. There is rationing in the form of waiting lists and queues

Healthcare investment opportunities

Primary care in terms of 'GP' clinics is mainly private. Although called 'GP' clinics, there is as yet no mandatory GP training or certification such as in UK or Australia. Then there is the private hospital sector that provides secondary and tertiary care: these are mainly for-profit, although there is a handful of charitable hospitals such as Assunta, Tung Shin and Adventist. The private sector does not receive any government or budget allocations; payment is out of pocket or through voluntary private insurance. Corporate solutions - medical cover provided for employees - has been a major factor in the growth of the private hospitals; such insurance is mainly 'hospital and surgical' and do not provide for long term care/rehab/preventive screening.



Dr. Su-Lin Chong is a Senior Advisors with focus on Malaysia. She began her career in hospital management in Subang Jaya Medical Centre, now part of the Ramsay Sime Darby network of hospitals, and was Director of Ancillary and Allied Health services before she was invited to be founding CEO and Project Director for the International Medical University's planned medical center.

Vietnam

- Vietnam has coped well with Covid-19, but the strain to modernize its healthcare system will require importing more doctors and better equipment as medical tourism is stymied by travel restrictions
- The Southeast Asian nation remains a high growth frontier economy, and burgeoning middle-class makes its healthcare industry attractive
- Online and in-house care is the fastest-growing segment as the government continues to encourage foreign investors

Vietnam's response to Covid-19

Even though Vietnam is a developing country and its healthcare system is mostly state-run it has coped well with Covid-19 due to the country's experience with pandemic outbreaks, including the SARS outbreak in 2002. At the outset of the Covid-19 epidemic, the government was quick to communicate the dangers to the public and swiftly put curfews in place. And due to Vietnam's rich experience with infectious diseases, the population was very aware of the risks and largely abided by measures put in place to prevent the disease's spread.

The country mobilized against Covid-19 early, declaring a national emergency on February 1, ahead of most ASEAN countries and before it was labeled a global pandemic by the World Health Authority. This was followed by a well-executed strategy of intensive testing, contact tracing and isolation.

Vietnam was also the first country to ban flights from China, with which it shares a 1,300-kilometer border. From March 22, it suspended the entry of all foreigners until further notice and ordered nationwide isolation measures. The swift action by the government, coupled with lockdown measures, and contact-tracing resulted in the country avoiding the kind of public health crises that convulsed more developed nations such as Italy, the UK and the United States.

Before the outbreak of Covid-19, the demand of premium healthcare services in Vietnam outstripped supply, leaving affluent Vietnamese and expats to seek treatment in neighboring countries. The overcrowding of government hospitals, shortages of medical staff and lack of most modern updated equipment for surgery and intensive care, led Vietnamese to spend USD2 bn in 2017 to travel abroad to countries including Singapore, Thailand, Malaysia, Korea, Taiwan and Japan for higher quality care.

Recent travel restrictions that have been put in place to decrease the spread of Covid-19 have increased the pressure on the Vietnamese healthcare system, especially as the country is not producing enough doctors to meet the needs of local hospitals. This bottleneck is in large part due to the eight to ten years of training medical students need to become full-fledged physicians. To overcome the shortage, foreign-backed private hospitals may start luring more foreign doctors to Vietnam, which will likely increase the costs of private healthcare. And if government hospitals want to entice affluent local patients, they will need to upgrade their aging medical equipment, which has discouraged those with means from visiting state clinics.

Drivers for private healthcare investment

Vietnam's healthcare industry is ripe with opportunities. The country is a fast-growing frontier market, whose annualized economic growth of over 6% in the past two decades has been underpinned by a booming population and a rapid rise in per capita income, coupled with aging populations. Per capita, spending on health care is forecast to triple to USUSD408 in 2028 from USD161 in 2018 as increased longevity increases non-communicable diseases such as stroke, heart conditions and lung cancer.

The rise of non-communicable diseases has also coincided with the demand for quality care. Nearly 8 out of 10 deaths in Vietnam are due to non-communicable diseases, and this will require more significant investment in specialist medical facilities to deal with cancers, strokes and heart ailments. The absence in particular of modern oncology specialist hospitals has made treatment for cancer the number one reason Vietnamese patients seek treatment at facilities in Singapore. Malaysia is also a popular destination for cancer and cardiological treatment due to its high-tech hospitals and low-cost treatment.

The introduction of mandatory health insurance in 2015 has also been supportive of the country's healthcare industry. To date, 87.7% of the country's population is insured, and it is expected that the goal of universal healthcare coverage will be reached by 2030.

Healthcare investment opportunities

As much as there is a demand for specialty hospitals for non-communicable diseases, there is also a need for investment in generalist private health facilities. Around 85% of hospitals in Vietnam are government-run, but private hospitals have started to catch up in recent decades, rising from zero in 1993 to 206 in 2019. Modern and high-tech medical facilities have mostly mushroomed in big cities such as Hanoi and Ho Chi Min City, which have seen the most rapid growth of the middle class. Still, government hospitals lag in sophistication and require funds to invest in new equipment and technology.

Furthermore, the Vietnamese government recognizes the importance of investment in this vital sector. It actively encourages foreign funding, but it is also keen at the same time to import healthcare knowledge and expertise. Healthcare facilities are eligible for preferential corporate income tax and depending on the location, may also qualify for a tax holiday. Businesses combining online and in-

home health services have been popular with foreign investors of late. For example, Jio Health, a start-up healthcare company, raised USD5 million in April 2019 to help it improve its digital infrastructure and hire more caregivers. And in September, Bao Minh Insurance partnered with Doctor Anywhere, a Singapore-based telehealth start-up, to provide online healthcare services in Vietnam.

Despite the many challenges faced by Vietnam, it is expected that the economy will recover faster than most countries, and its GDP this year is forecast by the Asian Development Bank to grow 4.1%. That will make the country's USD7.7 bn health industry, which has grown at a compound growth rate of 10.3% in the past three years, an attractive option for international healthcare investors in a world that is likely to be characterized by low growth for the foreseeable future.



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Indonesia

- Covid-19 hit Indonesia badly
- All the hospitals in health care sector are reviewing and adopting new policies to adopt to current Covid-19 situation.
- Rapid adoption of telehealth platforms

Indonesia's response to Covid-19

Indonesia is one of the worst hit country in ASEAN. It responded late with a first officially detected case on 1st March. Indonesia did not have the test kits available before then and did not implement strict lockdowns like other countries. Indonesia has done 2521 tests per 1 m population vs. Singapore's 116,994 tests per 1 m population. After two months of lockdown, Indonesia opened up again without implementing a lot of restrictions and the number of infections has continued to soar.

Drivers for private healthcare investment

Like other countries in SEA, Indonesia has one of the lowest health care expenditures per capita (USD 277 vs. USD 4,005 in Singapore) but growing rapidly. In 2014, President Jokowi implemented universal healthcare coverage insurance that requires the entire population of 270 million people to be covered by 2019. This has been a catalyst to increase the pie of healthcare spending as all hospitals (public and private) are required to provide services to cater for this. The pie has been enlarged but overall margins have been reduced at the same time as the BPJS margins tend to be lower. The Covid-19 pandemic has required adoption of new health care policies in the healthcare sector. There are a number of government referral hospitals that take care of infected Covid-19 patients to isolate them from general community. All the hospitals in health care sector are reviewing and adopting new

policies to adopt to current Covid-19 situation. Going forward, there will be increased investment in health care spending from this renewed focus.

Healthcare investment opportunities

There is an increased focus on health care. Government also has set aside Covid-19 budget of IDR 900 tn or over USD 60bn in healthcare spending as well as fiscal stimulus. We anticipate that there will be continued spending in the healthcare sector especially in sectors such as diagnostics, digital health and specialized care, such as rehabilitation and other outpatient services. Covid-19 has boosted and amplified telehealth in Indonesia. This has caused rapid adoption of telehealth platforms such as Halodoc, Alodokter and Good Doctor (backed by Grab and Ping An). Halodoc is currently in the process of fundraising and looking to join to become Indonesia's sixth Unicorn with Bn plus valuation round.



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Philippines

- The Philippines has a mixed public-private healthcare system that operates within a fragmented environment. The private sector caters to only about 30 % of the population but is far larger than the public system in terms of financial resources and staff (Oxford Business Group, 2018). It provides healthcare that is generally paid through user fees at point of service. About 65 % of the 1,224 hospitals in the country in 2016 were private.
- Total health expenditure has been growing consistently in the past four years, with a four-year compounded annual growth rate of 10.1%. As of 2018, total health expenditure by 12.1% and accounted for 4.4% the GDP. The healthcare providers that contributed the most to healthcare expenditure include: hospitals, providers/retailers of medical goods, and ambulatory care, which accounted for 43.9%, 27.2%, and 8.7%, respectively. The strong growth in the healthcare expenditure has been stimulated by the increased levels of employment and social insurance contributions.
- Currently a lower middle-income country, the Philippines aims to become an upper middle-income country by 2040. Healthcare expenditure for the average upper middle-income country contributes about 6% of the GDP. As the Philippines approaches a middle-income status by 2040, along with government initiatives such as the Universal Healthcare Act, healthcare expenditure's contribution to GDP is expected to reach 6% in the long-term.

Philippines response to Covid-19

It is a huge feat to manage a population of 110 million during a pandemic. According to the WHO report #43 for the country from July 7, "there is clear evidence of an increasing trend in the number of cases and higher transmission in NCR and Central Visayas, with many provinces, cities and municipalities with previously zero cases reporting their first case, all with travel history from areas with transmission. At national level, the Covid-19 bed occupancy rate is steadily increasing up to 42.6%, with variation between Regions. The higher number of cases in the past months is in part due to enhanced surveillance, real-time reporting, expansion of laboratory network, and an increased

movement of people after the relaxation of movement restrictions. The government is responding through targeted quarantine measures in areas with a higher concentration of confirmed cases and expansion of contact tracing.”

Drivers for private healthcare investment

Inequity in health status and access to services are considered the most important health problems in the Philippines – arising from structural defects in the basic building blocks of the Philippine health system. These are governance-associated challenges that serve as an impetus for the recent health reform efforts in the country. The Philippines has a major opportunity to improve the health of its people with the passage of the new Universal Health Care (UHC) Law to achieve more accessible healthcare for all. The law requires LGUs to take more responsibility for the delivery of healthcare services. Local Governments now face a challenging timeframe to lead major reform and modernise their health systems. Running healthcare services is one of the most complex and technically demanding roles that governments undertake, requiring effective infrastructure and high levels of expertise. The quality of execution of the UHC reform is a major financial and political risk for Local Governments. The UHC Law sets in place fundamental reform to the healthcare system in the Philippines. The legislation requires universal coverage by state insurer Philhealth. It also clearly defines the roles of key agencies in the leadership and provision of healthcare. Philhealth is responsible for the funding of individual health care, with universal coverage within agreed funding levels. The UHC Law makes Provincial Governments responsible for a wide range of functions, with the most substantial challenge being the development of integrated provider networks that register populations, initiate health programs, provide coordinated care and act as gatekeepers to secondary and tertiary services. The UHC Law requires that LGUs implement the required structural changes within 5-7 years.

Central to the vision is the development of patient-centered “networks” of health services that operate according to the principles of high performing primary care. These “networks” will register patients and develop a lifelong relationship to support wellness and provide coordinated care when people are unwell. In essence, these “networks” are responsible for delivering integrated care to local populations. Presently, only a handful of LGUs are poised to implement the new Law in their respective constituencies. There are major challenges to be overcome in achieving the UHC health system reforms.

Within the reformed healthcare system, the DoH is the ‘steward of the health system’ responsible for:

- National policy direction and strategic plans
- Setting standards and guidelines for health
- Regulating health services
- Managing specialized tertiary healthcare

Healthcare investment opportunities

Capacity and capability - The country’s primary healthcare system remains under-developed, with a lack of capacity and capability within Rural Health Units and Barangay Health Stations, resulting in people presenting at hospitals for conditions that should be managed in family medicine clinics in the community.

Resourcing - There are relatively low levels of healthcare resourcing within the Philippines health care system by international standards. Thus, solutions must be smart and make better use of all resources, particularly the workforce, we already have.

Facilities and equipment - Whilst there are some modern facilities in the NCR, many of the Rural Health Units and Level 1 Hospitals require upgrading with improved general amenities and access to medical equipment.

Workforce - Generalist family medicine doctors form the core of an effective primary care system; however, most doctors prefer to specialize, leading to a shortage of a family medicine workforce and a small number of doctors working in the community, with the ratio significantly lower than developed countries.

Management - There is an existing healthcare infrastructure across the country, but a lack of professionalized healthcare management to support organized service and integrated care.

Monitoring and performance - There are not strong systems for monitoring performance and quality standards across the health system or for providing feedback on performance to various clinics and hospitals.

Clinical pathways - Clinical systems, such as referral pathways, are not well defined. However, there are some promising beginnings to improve referral processes between primary care and hospitals.

E-health on the rise - The World Health Organization (WHO) defines eHealth as the “cost-effective and secure use of Information and Communications Technology in support of health and health-related fields, including health-care services, health surveillance, health literature and health education, knowledge, and research.” ehealth as we currently know it would cover telemedicine, Electronic Health Records (EHR) and Electronic Medical Records (EMR), mHealth, eHealth Education and Health Informatics. In 2018, the global telemedicine market was valued at USD 21.4 bn and it is estimated to be valued at USD 60.4 bn in 2024, a CAGR of 18.50% with much of the growth forecasted in Asia-Pacific due to its growing geriatric sector. Since the enhanced community quarantine imposed last March 2020, a number of public and private initiatives have opened online consultation services to help decongest medical facilities. Examples of these telemedicine services include: COVID AskForce, UP Diliman Psychosocial Services, KonsultaMD and Medifi.

A number of these telemedicine services were created in response to the COVID-19 outbreak. Prior to the outbreak, there was relatively slow growth in the eHealth market but with the population forced to consult eHealth services, the Philippines expect its population to adjust to this “new normal” and a number of firms entering this industry.



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TVM Capital Healthcare in Southeast Asia

Investment themes

As a result of the growth of Southeast Asian countries, as well as the recent Covid-19 experience we expect a trend away from (large) hospital-centric “high-touch” care towards more digitally supported “lower-touch” specialized care in particular for the management of chronic and non-communicable diseases. This also requires a more active participation of the patients through diagnostic and monitoring devices, wearables, and other equipment. In the wake of these developments we expect regional governments to favor the creation of a highly integrated, improved quality, more accessible and more resilient healthcare system that can withstand and manage exogenous shocks in tandem with the public sector. The interplay and mutual dependence of the public and private sectors in healthcare have been amply demonstrated in the covid-19 crisis.

The sectors that in our view will benefit most, will be those we historically have invested and gained huge operational expertise in:

- The entire group of “continuum-of-care” (COC) services, including Long Term Care (LTC), Post-Acute Care (PAC), Post-Acute Rehabilitation (PAR), physical therapy, home care and the broader field of disease management
- specialized care such as oncology services, cardiology centers, dialysis, ophthalmology, as well as the broader field of women’s health, spearheaded by IVF and assisted reproduction
- Locally produced healthcare products with a special view on making supply chains more resilient (pharma, diagnostics, devices),

All these sectors now must have a strong digital component and ideally follow a strategy to meet the need for accelerated digital and seamless integration of information flow and process management. Services that are “digitally enabled” or “technology enabled”, especially in integrated care and primary care networks, disease detection/testing/diagnostics, POCT (Point of Care Testing), and disease prevention will continue to be emerging investment sectors in healthcare.

For product companies, local production and a resilient supply chain will gain importance for national security reasons. Governments are expected to prefer domestic manufacturing over international suppliers and importation, especially in national security relevant sectors (availability of pharma products, devices, diagnostics), such as vaccines and infectious disease therapeutics. For product companies, the trend will be for reduction of complexity in oftentimes deeply structured international and JIT (“Just-in-Time”) supply chains.

TVM Capital Healthcare will look at these investment trends from the overarching themes of quality of life, healthy aging, and longevity. We expect these themes to continue to stay valid and important in a post Covid-19 world.

Our Footprint in SEA

We focus on expansion and growth capital investments adding our deep operational industry expertise. Our approach to value creation is driven by innovation, governance, diversity, and operational excellence. We develop and support the growth strategies with our investments by being hands-on when it makes sense – deploying our inhouse management, operational and strategic expertise to support our companies with the execution of their growth plans. TVM Capital Healthcare is based in Singapore since 2018 and can draw upon the experience of an experienced investment team and extensive net of Senior Advisors, each with a long-standing track record in the region’s healthcare industry.

INVESTMENTS AND OPERATIONS



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