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The state of the Life Sciences and Health Care industry

Finding the way forward

A promising outlook

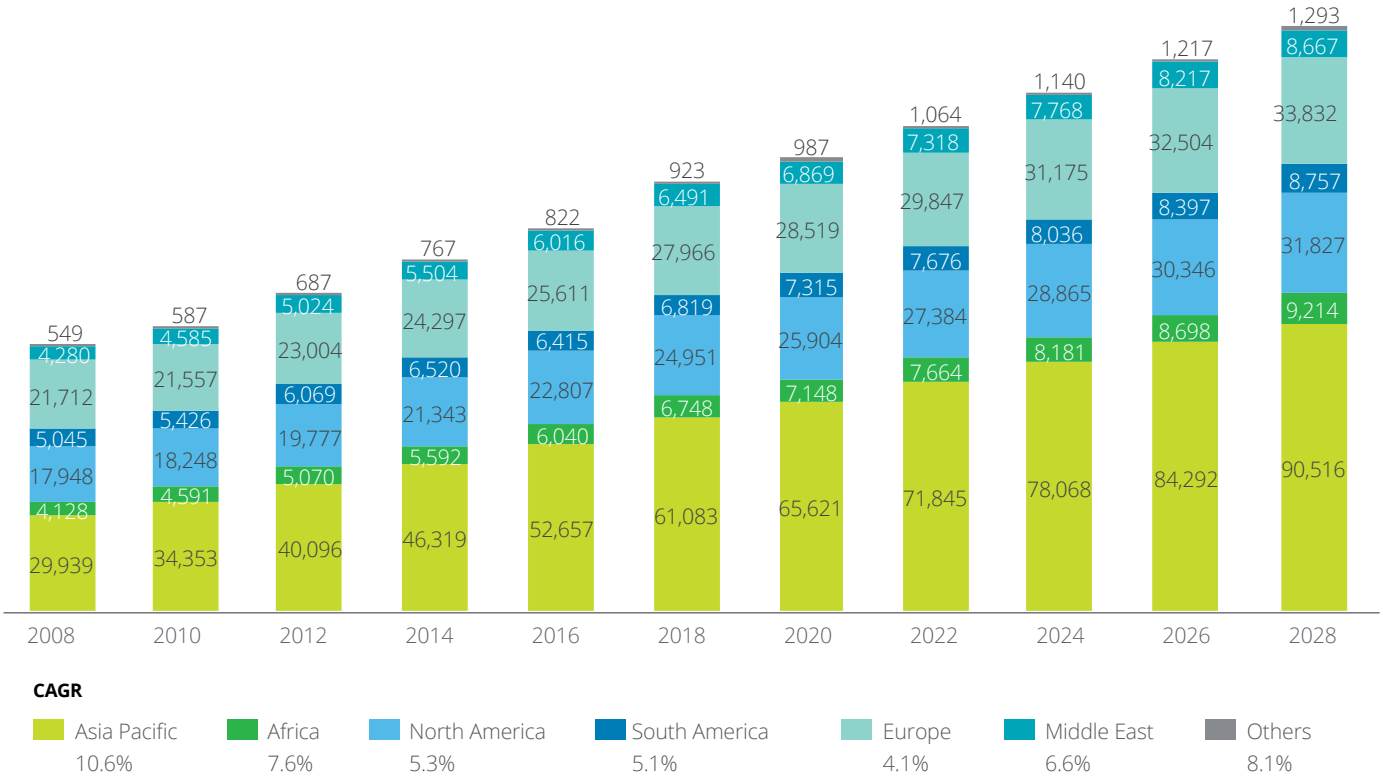
The past decade has seen Asia Pacific economies increase in significance to the global economy. As we will explore later in this report, this growing affluence is translating into a greater demand for quality care and innovative medicines in the region. At the same time, the increasing digital disruption and shift from volume-based to value-based health care also mean that Life Sciences and Health Care companies will need to change the way that they do business in the region.

Robust economic growth

Measured in purchasing power parity terms, Asia Pacific's Gross Domestic Product (GDP) currently accounts for 45.3% of global GDP, with this number expected to increase to 48.5% in 2025 (see Figure 1)[1]. As the region continues to consistently demonstrate strong economic fundamentals, the outlook for inbound investments is expected to be positive over the next few years (see Figure 2)[2].

Across the 2010-2017 period, for instance, Foreign Direct Investment (FDI) grew at a compound annual growth rate (CAGR) of 0.89%, as global companies from a variety of different industries, including Life Sciences and Health Care, make their foray or expand their presences in Asia Pacific – particularly in key markets such as China, Japan, India, Indonesia and Thailand – with heavy investments in research & development (R&D), sales and marketing, and manufacturing.

Figure 1: Global GDP in purchasing power parity terms, 2008-2028 (USD billion)



1 Economist Intelligence Unit Database.
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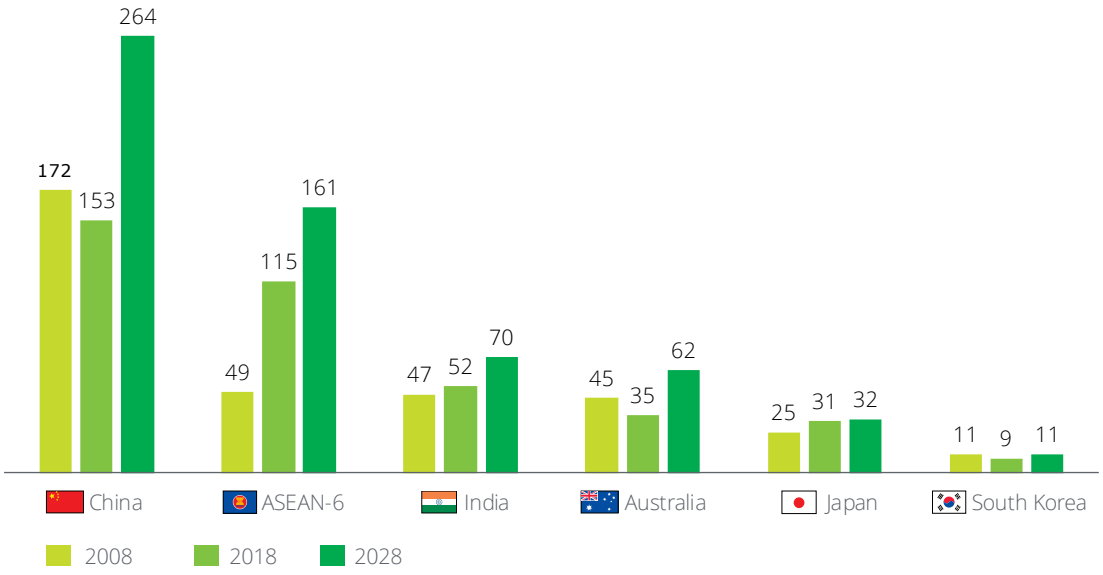
Figure 2: Growth trends in Foreign Direct Investment, 2008-2028 (USD billion)



Increasing digital disruption

Across a variety of industries, companies are rethinking their existing businesses and revamping their operating models in order to stay competitive amidst the imminent digital revolution. Within the Life Sciences and Health Care industry in Asia Pacific, digital health funding for the first half of 2018 reached USD 3.3 billion, or a significant USD 550 million more than the total funding in 2017[3].

Recent developments in this space include new technologies such as CAR-T immuno-oncology clinical trials, as well as advances in data analytics and deep learning technologies – all of which require fluency and competencies in the detection and management of scientific and technological innovation.

Shift from volume-based to value-based health care

Driven by factors such as unsustainable cost structures, stakeholders' push for value as well as an increased sophistication in health care systems to cope with more robust data and risk mitigation approaches, governments across the globe are shifting their focus from volume-based to value-based health care models as a way of reducing spending while improving outcomes[4]. With an ageing population and the rise of chronic diseases within the Asia Pacific region, the need for such interventions has only grown more acute in recent years.

Despite its promising outlook, however, navigating the region is not without its challenges. Several concerns include the rebalancing of political power within the region, rise of populism in various forms, as well as policy developments intended to increase the competitiveness of home-grown, Asia Pacific-based companies.

3 "Singapore secured US%16m of healthtech investments in H1 2018". Singapore Business Review. 12 July 2018. https://sbr.com.sg/healthcare/news/singapore-secured-us16m-healthtech-investments-in-h1-2018

4 "The road to value-based care: Your mileage may vary". Deloitte. 2015. https://www2.deloitte.com/content/dam/insights/us/articles/value-based-care-market-shift/DUP-1063_Value-based-care_vFINAL_5.11.15.pdf

Current state

Although the large markets of China, India and Japan have garnered much investor attention in recent years, the Asia Pacific region is also home to a diverse collection of markets of which many, such as frontier markets in Southeast Asia, are fast-growing (see Appendix for market snapshots). Despite the differing rates of development across the region, however, several common themes are evident.

Within the Life Sciences and Health Care industry, several overarching shifts include the move towards higher value-added economic activities, and the search for greater cost-efficiency and productivity growth amidst challenges dealing with ageing populations and the greater onset of chronic diseases. In response, we are beginning to witness increasing levels of intra-Asia Pacific investment activities as governments and companies in the region realise the market opportunities of forging stronger cross-border partnerships.

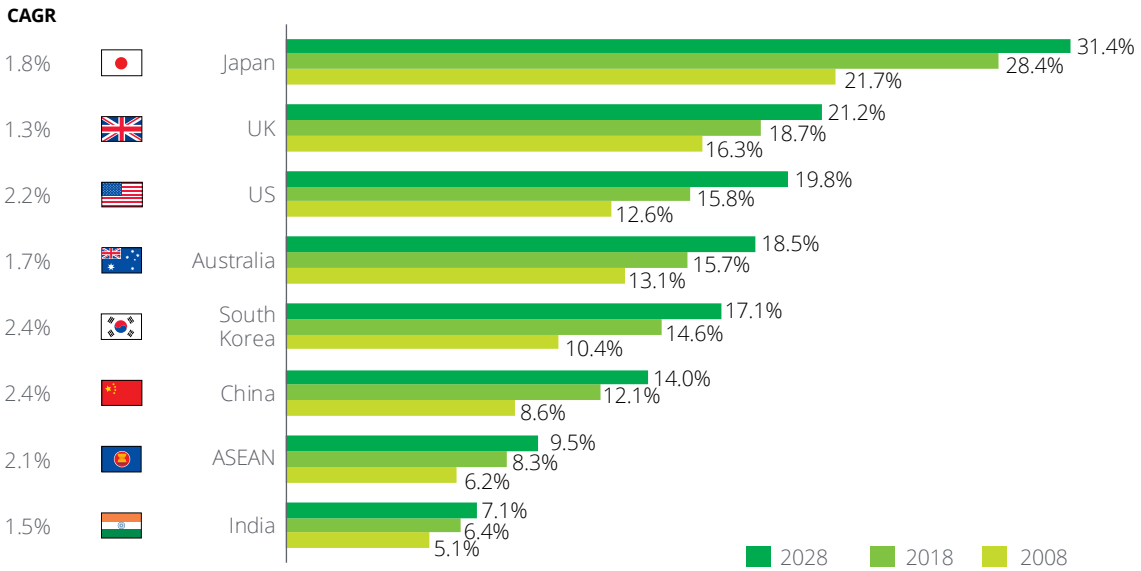
Ageing but affluent

Broadly speaking, the Asia Pacific region is undergoing several waves of shifting demographics. These include an ageing population, accompanied by an increased prevalence of chronic diseases, rising affluence, and the growth of densely populated mega-cities.

But the region's diversity must not be ignored: Asia Pacific is essentially a collection of markets with very diverse sets of demographics and disease profiles – and such disparities are often indicators that a varied array of unmet patient needs exist within the region.

For instance, Asia Pacific is currently home to more than 3.7 billion people, of whom one-quarter will be considered elderly, or above the age of 65, by 2028 (see Figure 3)[5]. But several frontier economies, such as the ASEAN markets of Cambodia, Lao PDR, and Myanmar, possess relatively younger populations[6], while mature markets such as Australia, Japan, and South Korea are grappling with a Silver Tsunami, where 18.5%, 31.4%, and 17.1% of their respective populations will be considered elderly by 2028 .

Figure 3: Percentage of population considered elderly, or above the age of 65, in selected Asia Pacific economies, 2008-2028



5 Economist Intelligence Unit Database.
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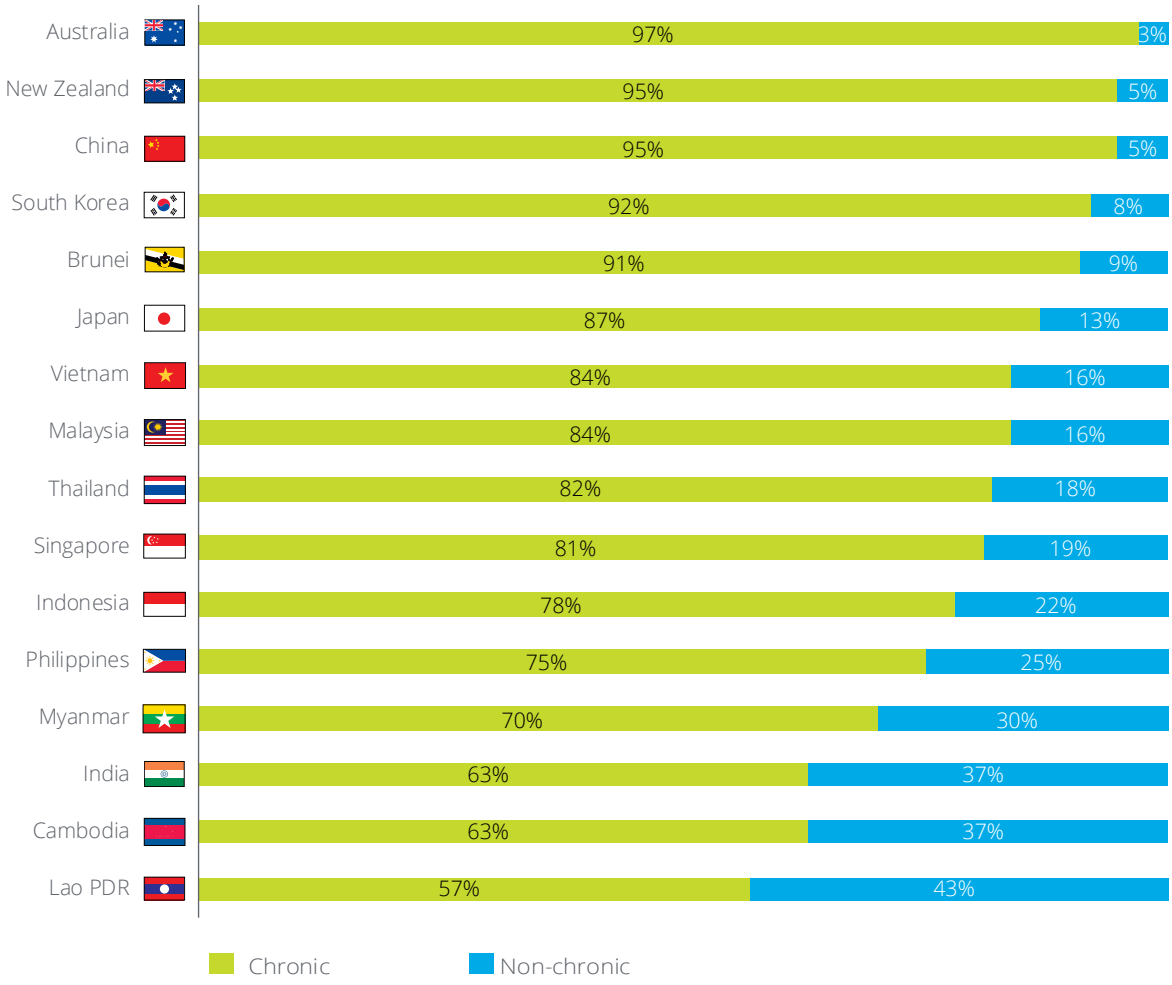
With their ageing populations, many of these Asia Pacific economies will also have to address issues related to declining workforce levels and increasing demands on public health expenditures, particularly in areas such as health, social, and disability care. Chronic and non-communicable diseases (NCDs) are also on the rise: according to the World Health Organisation, NCDs account for 62% of total mortality in the Southeast Asia region[8] and 80% in the Western Pacific region each year[9].

Amongst NCDs, cardiovascular disease, cancer, and diabetes have emerged as the top three causes of death and loss of Disability Adjusted Life Years, especially in more mature economies and higher socio-economic groups (see Figure 4). In Australia, for example, the estimated annual health expenditure attributable to cancer was AUD 4.5 billion, or 6.9% of the economy's total health care expenditure[10]. In response, the increasing demand for chronic disease care has been met with a surge in the number and variety of clinical trials conducted in recent years (see Figure 5), and a similar trend is expected to play out across the region in the foreseeable future.

Figure 4: A comparison of chronic and non-chronic disease incidences across Asia Pacific economies[11]



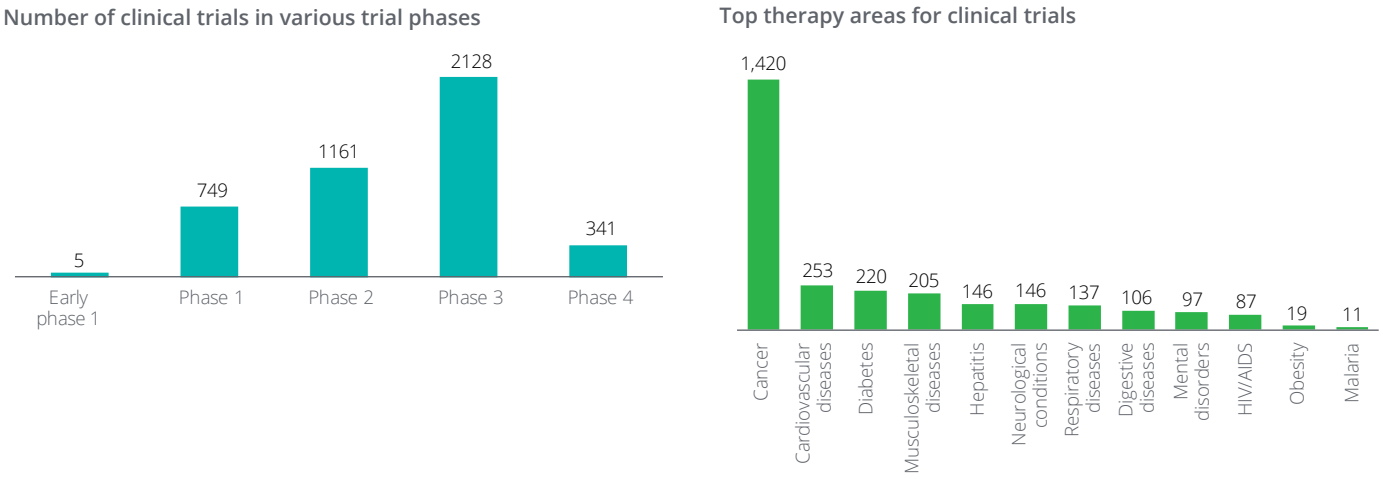
8 "The fatal link between tobacco and cardiovascular diseases in the WHO South-East Asia region". World Health Organisation. May 2018. http://www.searo.who.int/entity/noncommunicable_diseases/en

9 "Noncommunicable diseases in the Western Pacific". World Health Organisation. 2018. http://www.who.int/westernpacific/health-topics/noncommunicable-diseases

10 "Cancer in Australia". Cancer Council. 3 September 2018. https://www.cancer.org.au/about-cancer/what-is-cancer/facts-and-figures.html

11 World Health Organisation Global Health Observatory data.

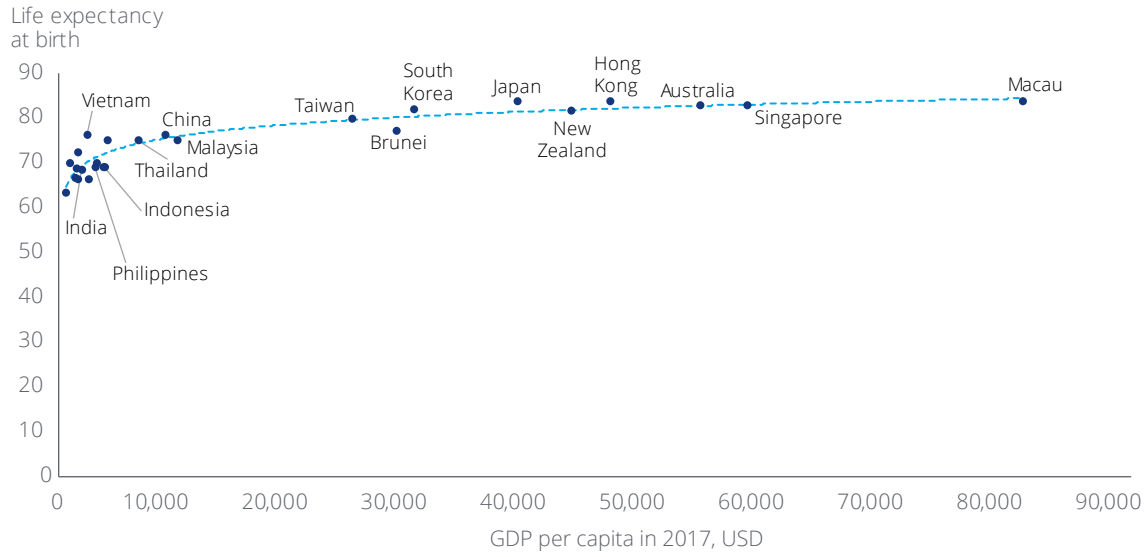
Figure 5: Clinical trials landscape in Australia in 2017[12]



Meanwhile, the shifting of the global economic centre of gravity towards Asia Pacific has generated an expanding middle class (see Figure 6). By 2025, the Asia Pacific region will account for 60% of the global middle class population, up from 46% in 2015[13]. China, in particular, is witnessing rapid growth in the number of High Net Worth Individuals (HNWIs): in 2017, it had 1.47 million of these individuals (see Figure 7).

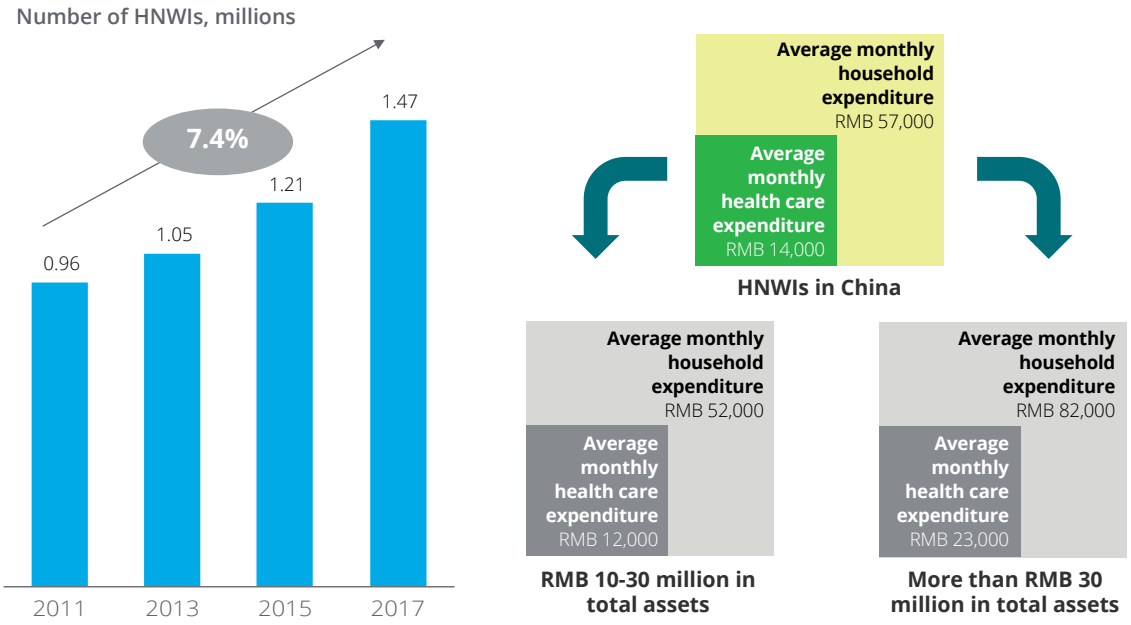
In terms of health care expenditures, estimates show that HNWIs in China spend about one-quarter of their family budgets (equivalent to about RMB 14,000-23,000) on health care products every month, including exercise and regular medical check-ups (see Figure 7)[14]. This, coupled with the rise of a new generation of technologically-savvy consumers – digital connectivity in the Asia Pacific region reached approximately 47% as of September 2017[15] – will result in a reshaping of health care behaviours and lifestyles, such as in the way consumers search for health care information and seek consultations with medical experts, in the decades to come.

Figure 6: Life expectancy and GDP per capita of Asia Pacific economies[16, 17]



12 ClinicalTrials.gov Database.
13 "The unprecedented expansion of the global middle class: An update". The Brookings Institution. 2017. https://www.brookings.edu/wp-content/uploads/2017/02/global_20170228_global-middle-class.pdf
14 "China's High Net Worth Individual Health Indicators Report 2017". Hurun. 2017.
15 "Everything you need to know about the state of digital in Asia-Pacific in 2017". TNW. 28 September 2017. https://thenextweb.com/contributors/2017/09/28/everything-need-know-state-digital-asia-pacific-2017
16 United Nations Database.
17 World Bank Open Data.

Figure 7: Growth of HNWIs in China[18]



Burden on existing infrastructure

Chronic shortages in health care infrastructure and resources exist across the Asia Pacific region. As compared to more mature markets such as the US and Organisation for Economic Co-operation and Development (OECD) economies, for instance, there remains a significant gap in the number of hospital beds per 1,000 population for a number of Asia Pacific markets (see Figure 8)[19]. Health care expenditure per capita is also lower: while the figure for the US in 2018 is USD 10,628, it is only USD 4,170 in Japan, USD 793 for ASEAN economies, and USD 575 in China (see Figure 9)[20].

Exacerbating the complexity is also the fact that several markets, such as China, India, and Indonesia, possess much heterogeneity in the availability and accessibility of care across urban and rural areas[21, 22, 23] , as cities struggle to cope with the strain of urbanisation and migration with the growth of metropolitan cities over time. While many local governments have embarked on a series of capacity and capability development programmes as part of their ongoing national agendas, private investors have also begun flocking to the region to address gaps in the health care delivery space and capture the private health care expenditure dollar.

In Indonesia, for instance, plans have been put in place to increase bed capacity and upgrade health care facilities to meet the increasing demand for health care services, with the goal of achieving a ratio of 2 beds per 1,000 population by 2025[24]. In addition, several large Indonesian conglomerates have begun to venture into this space. These include Siloam Hospitals, the health care unit of property developer Lippo Karawaci, which has announced plans to build, acquire and expand existing hospitals, including one for 22 new hospitals by 2017[25].

18 "China's High Net Worth Individual Health Indicators Report 2017". Hurun. 2017.
19 "OECD Report: 'Health at a Glance Asia/Pacific 2016". International Medical Travel Journal. 3 February 2017. https://www.imtj.com/news/oecd-report-health-glance-asiapacific-2016
20 Trading Economics Database.
21 Economist Intelligence Unit Database.
22 World Bank Open Data.
23 "A Global Middle Class Is More Promise than Reality". Pew Research Centre. 8 July 2015. http://www.pewglobal.org/2015/07/08/a-global-middle-class-is-more-promise-than-reality
24 "Healthcare Resource Guide: Indonesia". Export.gov. 2016. https://2016.export.gov/industry/health/healthcareresourceguide/eg_main_108589.asp
25 "Indonesia's health care industry is on the rise". The Jakarta Post. 27 September 2016. http://www.thejakartapost.com/academia/2016/09/27/indonesias-health-care-industry-is-on-the-rise.html

Figure 8: Health care expenditure in Asia Pacific economies, 2018[26]

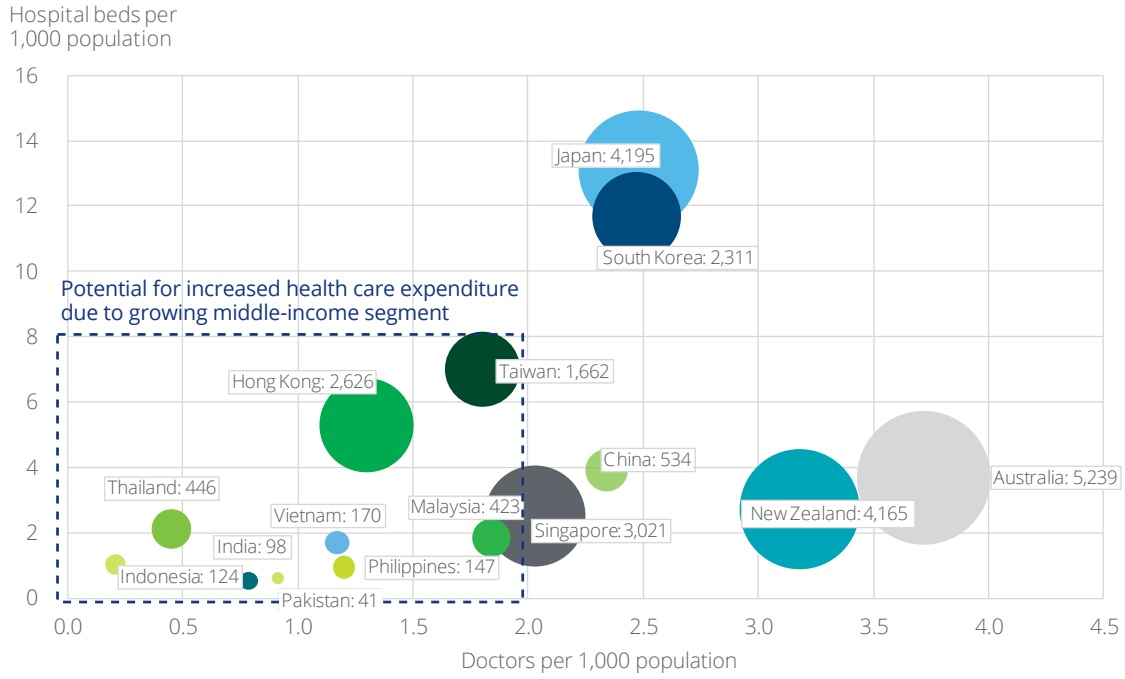
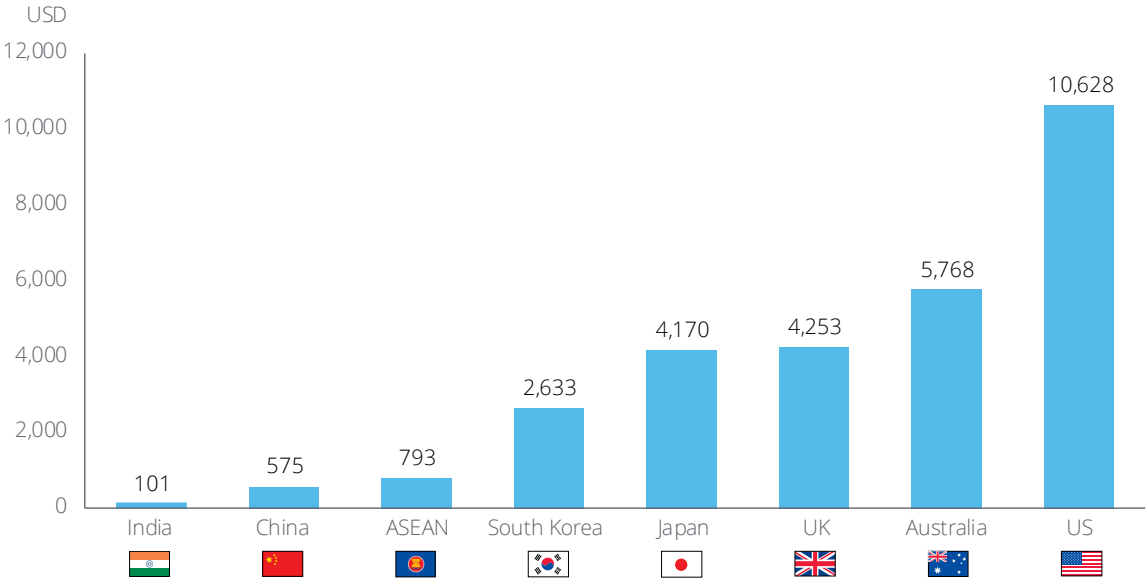


Figure 9: A comparison of health care expenditure per capita between selected economies, 2018[27]



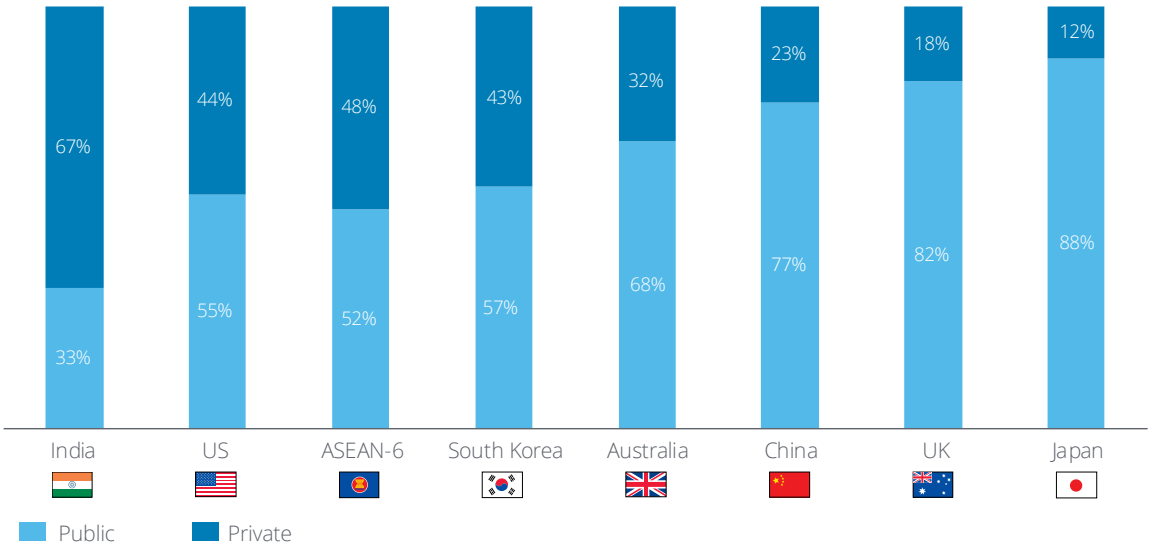
26 "OECD Report: 'Health at a Glance Asia/Pacific 2016". International Medical Travel Journal. 3 February 2017. https://www.imtj.com/news/oecd-report-health-glance-asiapacific-2016
27 Trading Economics Database.
28 Economist Intelligence Unit Database.
29 Economist Intelligence Unit Database.

The public-private health care expenditure mix, however, varies across different Asia Pacific markets. In India, private health care is expected to continue to dominate the market, with a projected share of more than 60% of total health care expenditure in 2028[28] (see Figure 10). On the flipside, public health care is expected to account for the lion's share at more than 70% in China and Japan, with their concerted push towards universal health care coverage and value-based outcomes, including the adoption of low-cost generics[29].

The Asia Pacific consumer's growing affluence is also driving an increasing demand for quality care in the region. In certain local markets, historically sub-optimal standards of care have resulted in public distrust in the system, which is in turn driving demand for cross-border medical tourism. Cambodia's affluent consumers, for example, often seek treatment in the neighbouring economies of Singapore, Thailand, and Vietnam, especially for specialty care such as cardiovascular surgical procedures and executive health screening[30].

Indeed, medical tourism has emerged as a high-growth industry for the region: in 2016, an estimated 10 million medical tourists sought care in the region, spending approximately USD 18-20 billion[31]. This opportunity has not gone unnoticed. Provinces in China, for instance, are investing in the development of medical tourist destinations. With hopes of retaining wealthy Chinese consumers who might otherwise venture abroad for their medical treatments, the province of Hainan is investing billions of dollars to transform a string of riverside villages into a medical tourism destination[32]. In addition, this hub will provide cutting-edge treatments, such as for cancer, which are available overseas but have yet to receive regulatory approval in China[33].

Figure 10: Public and private health care expenditure as a percentage of total health expenditure, 2028



30 "Building trust in local doctors and healthcare". Khmer Times. 22 August 2016. https://www.khmertimeskh.com/news/28746/building-trust-in-local-doctors-and-healthcare

31 "Medical Tourism in Asia-Pacific Growing Rapidly". BrinkAsia. 3 November 2017. https://www.brinknews.com/asia/medical-tourism-in-asia-pacific-growing-rapidly

32 "China is Building a $3 Billion Medical Tourism Hotspot". Skift. 3 May 2017. https://skift.com/2017/05/03/china-is-building-a-3-billion-medical-tourism-hotspot

33 "China is Building a $3 Billion Medical Tourism Hotspot". Skift. 3 May 2017. https://skift.com/2017/05/03/china-is-building-a-3-billion-medical-tourism-hotspot

Pricing pressures

Although Asia Pacific remains a promising market for Life Sciences and Health Care companies, the emergence of home-grown companies offering cost-effective solutions have intensified competition in the region. Propelled by the rise of nationalism on global, regional, and local levels, these local companies mainly cater to cost-focused customer segments, although some are increasingly looking to expand into more premium customer segments (see Case Study 1 and 2).

Case Study 1

India scales up pharmaceutical production

India, with a pharmaceutical production of USD 25 billion a year, is one of the world's largest sources of generic drugs, supplying 50% of the global demand for a range of vaccines, 40% of the generic demand in the US, and 25% of all medicine in the UK[34]. Within India, generics production accounts for about three-quarters of its total market volume, which is in turn supported by an estimated 24,000 firms[35].

In recent years, however, attempts by the National Pharmaceutical Pricing Authority to introduce more stringent price control regulations[36] – which to some observers implied a more permissive attitude towards generics, with potentially stifling effects on innovation – have resulted in escalating backlash from the industry.

As a result, many local companies are looking at ways to modify their businesses to enable more profitable scaling, and exploring investment opportunities in biosimilars, biologics and vaccines production. For example, Cipla, one of the leading generics manufacturer in India, announced plans to set up a new biotech facility to focus on the production of biosimilars in South Africa. Biocon, too, is setting up overseas manufacturing bases to cater to local and export markets in Asia, Europe and US[37].

Case Study 2

Indonesia ventures into higher value drug manufacturing

With the Jaminan Kesehatan Nasional (JKN), a compulsory national health insurance scheme implemented by Badan Penyelenggara Jaminan Sosial Kesehatan (BPJS), prioritising the use of low-cost generic drugs, Indonesia is experiencing increasingly intense competition and thus, diminishing profit margins, in the generics market[38].

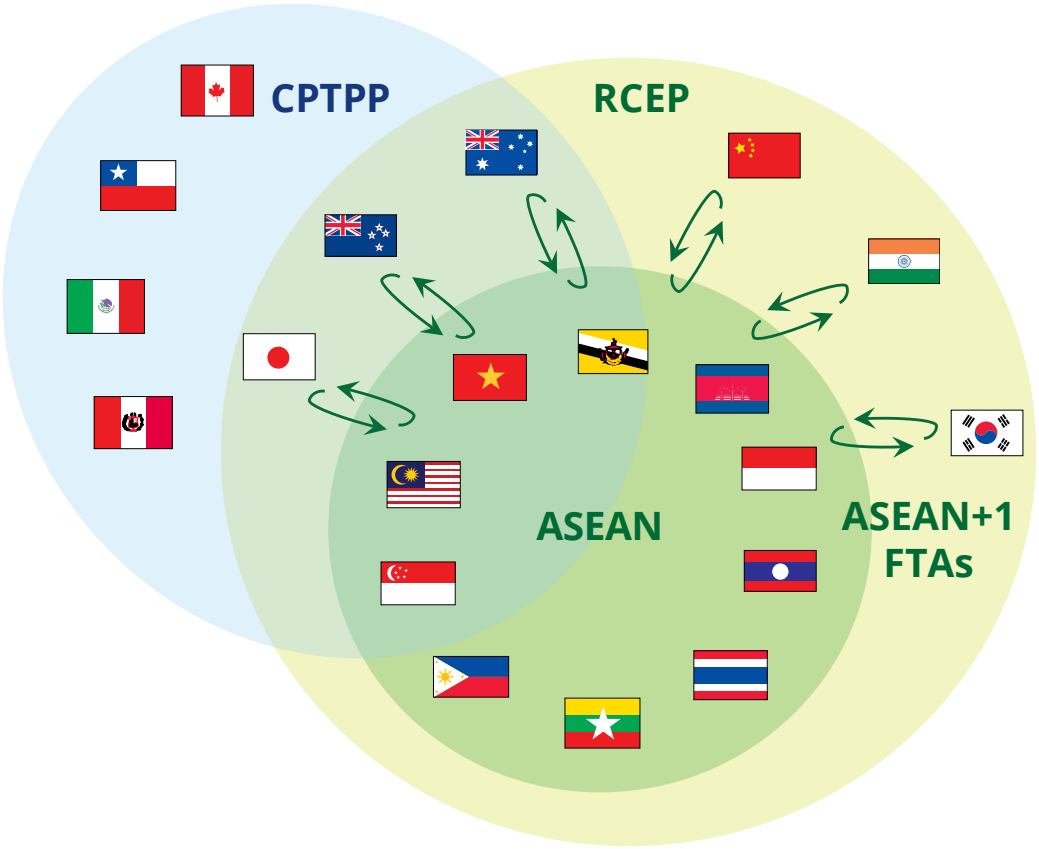
As a result, local manufacturers face strong imperatives to explore higher value drug manufacturing. For instance, Kimia Farma, state-owned manufacturer with injectables capabilities recently announced plans to expand its market presence beyond Indonesia with acquisitions in Saudi Arabia's Dawaa Medical Company and co-investments with Singapore-based Cellsafe to venture into biosimilars and stem cell research[39].

34 "Pharmaceutical manufacturing companies in India: ones to watch". Pharmaceutical Technology. 6 August 2018. https://www.pharmaceutical-technology.com/features/pharmaceutical-manufacturing-companies-in-india
35 Economist Intelligence Unit Database.
36 "NPPA's drug price fixing power to be curbed". The Times of India. 7 June 2018. https://timesofindia.indiatimes.com/india/nppas-drug-price-fixing-power-to-be-curbed/articleshow/64486527.cms
37 "Indian companies gearing up to solve the biosimilars puzzle". Business Standard. 13 July 2016. https://www.business-standard.com/content/b2b-pharma/indian-companies-gearing-up-to-solve-the-biosimilars-puzzle-116071200648_1.html
38 "Pharmaceutical Exports Indonesia Remain Under Pressure in 2017." Indonesia Investments. 1 June 2017. https://www.indonesia-investments.com/business/business-columns/pharmaceutical-exports-indonesia-remain-under-pressure-in-2017/item7867
39 "Kimia Farma acquires Dawaa in Mideast expansion bid". The Jakarta Post. 5 March 2018. http://www.thejakartapost.com/news/2018/03/05/kimiafarma-acquires-dawaa-in-mideast-expansion-bid.html

Increase in intra-Asia Pacific investment activities

On the back of inter- and intra-regional trade agreements and partnerships – such as the ASEAN+1 FTAs, Regional Comprehensive Economic Partnership, and Comprehensive and Progressive Agreement for Trans-Pacific Partnership (see Figure 11) – Asia Pacific economies, particularly emerging and frontier markets, have witnessed the development of a vibrant network of multilateral and bilateral economic relationships, as well as the harmonisation and rapid development of the Life Sciences and Health Care industry (see Case Study 3 to 5). In particular, the harmonisation of regulatory requirements for drugs and medical devices is expected to expedite the approval process for multinationals entering Asia Pacific markets.

Figure 11: A vibrant network of inter- and intra-regional trade agreements and partnerships



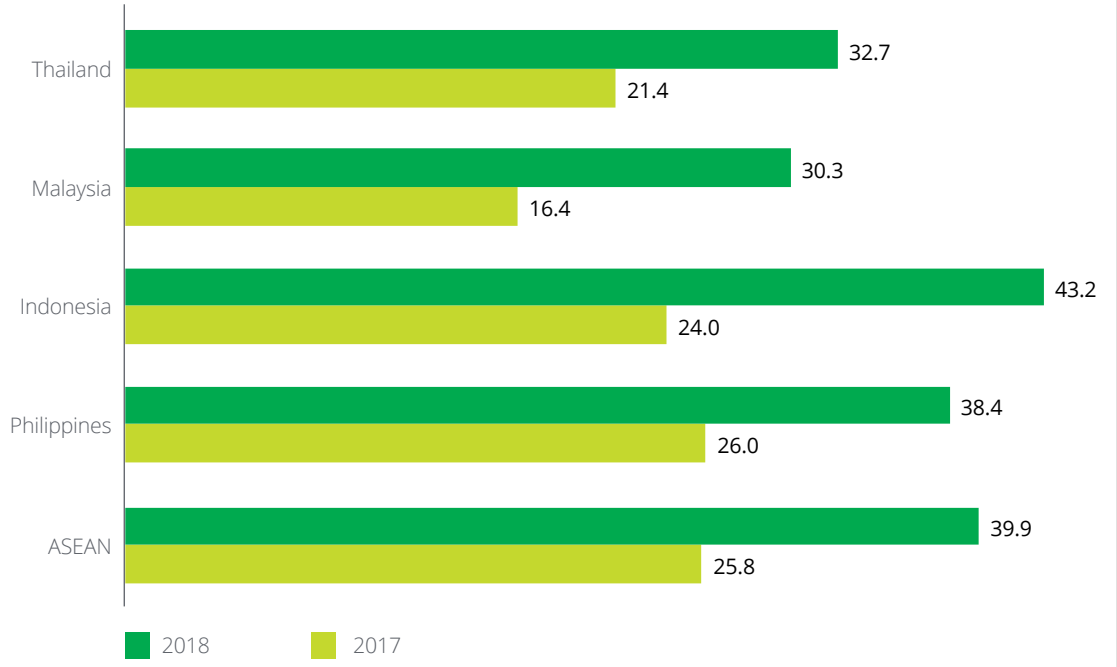
Case Study 3

Japanese companies invest in Southeast Asia's potential

As Japanese companies' appetite for growth continues to drive their outbound investments, the Southeast Asia region has emerged as one of their major investment destinations: from 2011-2016, Japanese investment in major Southeast Asian markets averaged about USD 20 billion each year, more than double the average of the previous five-year period[40]. This optimism is reflected in the Diffusion Index, a measure of shifts in business confidence, for ASEAN economies in general and its emerging frontier markets in particular (see Figure 12).

In terms of pharmaceuticals, the Japanese government is implementing new measures to help Japanese companies with the construction of factories for the production of generic drugs in several Southeast Asian countries where labour costs are lower than Japan[41], such as Thailand and Vietnam. Ultimately, it aims to reduce overall drug costs, which are currently at about JPY 10 trillion (USD 91 billion) a year, by lowering production costs and strengthening the sales competitiveness of Japanese pharmaceutical companies in these locations.

Figure 12: Diffusion Index for selected markets in Southeast Asia



40 "JETRO Global Trade and Investment Report 2016". Japan External Trade Organization (JETRO) Overseas Research Department. 2016. https://www.jetro.go.jp/ext_images/en/news/releases/2016/25775525206556e1/overview.pdf

41 "Japanese firms eye Asia factories for generic drugs". The Straits Times. 19 January 2018. https://www.straitstimes.com/asia/east-asia/japanese-firms-eye-asia-factories-for-generic-drugs

Case Study 4

China climbs up the value chain

Despite its success in propelling China's economic growth thus far, the low-cost manufacturing sector is currently witnessing rapid wage inflation. As a result, several neighbouring economies, including those in Southeast Asia, are beginning to appear more cost competitive to low-cost manufacturers, some of whom have already begun to relocate parts of their value chains to these markets.

In a bid to strengthen its existing foothold in the manufacturing sector, such as in the biopharmaceutical segment, China is re-examining its presence in the region. Specifically, China expects to become more involved in complex supply and value chains where manufactured components are produced in other markets, while retaining its position as a central hub within the regional chain – a concept known as Factory Asia[42]. To achieve this, China is leveraging cross-border relationships within value chains. For example, through the Information Technology Agreement, a voluntary plurilateral agreement under which signatories agree to remove restrictions on trade in electronic goods, companies are able to reduce the costs of doing business across borders.

Case Study 5

The rise of India

Driven by an already saturated pharmaceutical market on their home ground, Indian pharmaceutical companies are also increasingly looking towards Southeast Asia to expand their presences. Currently, India is the largest provider of generics globally, with Indian pharmaceutical companies accounting for about 80% of the total market[43], and large players, such as Sun Pharma, Lupin pharmaceuticals, Aurobindo Pharma, dominating the market in terms of sales volume.

Despite its leading position in the generics segment, however, it continues to import 75% of bulk drugs and chemical ingredients from China[44]. This poses a significant risk for India: in the event of adverse supply shocks, India could face a shortage and/or higher prices in the long run. To diversify its supply sources, the Indian government is in the midst of exploring partnerships with other markets. For example, it is currently discussing with the Philippines government plans to set up manufacturing zones in the Philippines for Indian pharmaceutical companies interested in entering Southeast Asia[45].

42 "The future of factory Asia – A tightening grip". The Economist. 12 March 2015. https://www.economist.com/briefing/2015/03/12/a-tightening-grip

43 "MNCs match Indian drug firms' growth". FICCI. 7 February 2018. http://ficci.in/ficci-in-news-page.asp?nid=13959

44 "Planned 'Pharma City' to Pump out Cheap Indian Drugs is Making Villagers Sick with Anger". South China Morning Post. 17 February 2018. http://www.scmp.com/week-asia/business/article/2133347/planned-pharma-city-pump-out-cheap-indian-drugs-making-villagers

45 "Phl, India eye pharma zone" Philstar Global. 15 March 2017. https://www.philstar.com/business/2017/03/15/1679131/phl-india-eye-pharma-zone

Future state

Succeeding in Asia Pacific requires Life Sciences and Health Care organisations to do more than implement one-size-fits-all strategies. Not only are localised strategies crucial in addressing the specific and idiosyncratic needs of each market, these strategies are also likely to be extremely varied across the diverse region. In this section, we take a look at some trends that we believe could reshape the industry in the long term.

Rise of Asia Pacific-based home-grown companies

A combination of factors, including government ambitions, market pressures and companies' appetites for expansion, have fuelled the growth in strength and presences of many home-grown Life Sciences and Health Care companies across Asia Pacific. With growing affluence driving an increased spending on health care and greater demand for quality care, Asia Pacific looks poised to become a key source of production within the global value chain as well as a Research & Development (R&D) hub.

One case in point is China, which is making a definitive move with its Made in China 2025 initiative (see Case Study 6). China, however, is not alone. Thailand, for example, recently launched its Thailand 4.0 growth model, which identified 10 industries – including biopharmaceuticals, bio-economy, and medical hub – as priority areas. Through a series of initiatives, the National Science Technology and Innovation Policy Office will be kick-starting and institutionalising major structural reforms to enable Thailand to better develop its competitive advantage in these segments[46].

Case Study 6

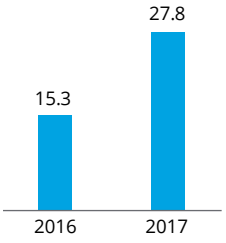
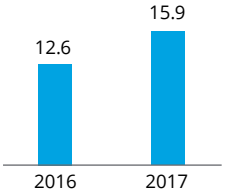
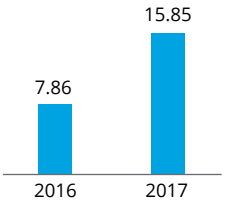
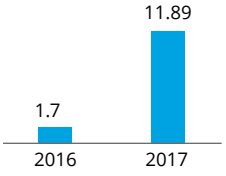
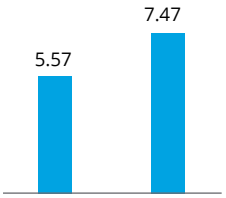
Made in China

In order to maintain its export leadership, China recognises that it must evolve its value chain towards higher value-added industries. The Made in China 2025 blueprint was thus developed with the ultimate objective of transforming the economy into a high technology powerhouse. As part of this plan, biopharmaceuticals and advanced medicinal products have been identified as one of the 10 sectors of focus for the government. With the government's backing, several domestic companies in this space have managed to achieve breakthroughs in terms of market access, as well as technology transfers through both organic and inorganic means (see Figure 12)[47].

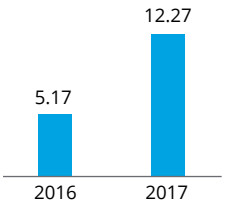
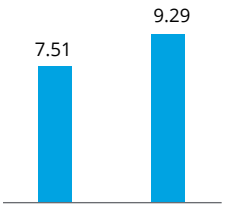
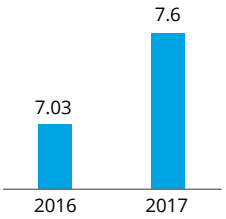
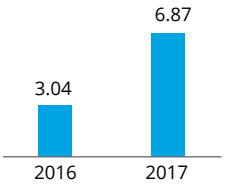
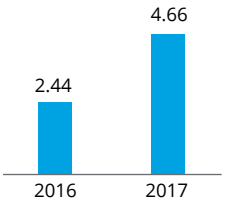
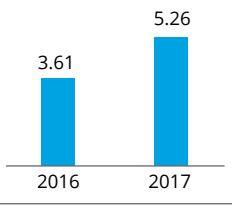
46 "National Science Technology and Innovation Policy Office (STI)". Ministry of Science and Technology Thailand. February 2008. http://www.most.go.th/main/en/375-ministry-of-science-and-technology/agencies-under-most/4515-national-science-technology-and-innovation-policy-office-sti

47 "The Chinese Pharmaceutical Industry: Winners and Losers 2017" PharmExec.com. 11 February 2018. http://www.pharmexec.com/chinese-pharmaceutical-industry-winners-and-losers-2017

Figure 13: Notable Chinese pharmaceutical companies gaining ground[48]

Company	Shareholding ownership[49]	Revenue[50]	CAGR	Activities
Tier 1: Market value exceeding RMB 100 billion (USD 15 billion)				
Hengri	Data unavailable		81.92%	• Possesses one of the leading positions in cancer treatment • Set to launch three blockbuster drugs in 2018, two of which are proprietary cancer drugs
Kangmei	• 32.5% owned by CEO • 25% owned by retail investors, such as Corporation Minmetals International Trust and China Securities Finance		25.95%	• Develops drugs, health products, food and cosmetics, with a focus on Chinese medicine • Three drugs set to enter the clinical trial phase, of which two are for cardiovascular diseases
Fosun	• Largely self-owned • Investors include E Fund Management and China Securities • Subsidiary holdings include Amneal Pharma (AMRX) and Anhui Sunhere Pharmaceutical Excipients Co.,Ltd		98.73%	• Niche drug development research for cardiovascular, anti-tumour, central nervous system, blood systems, metabolic, digestive tract diseases, and anti-infectives • Successfully obtained FDA approval for an anti-leukaemia drug and filed two Investigational New Drug applications for two immunotherapeutics in 2017
Tier 2: Market value between RMB 50–100 billion (USD 8–15 billion)				
Beijing Genomics Institute	• 32.5% owned by founder		Data unavailable	• Track record of specialised research employing state-of-the-art genomics • Leveraging China's low-cost high technology manufacturing capabilities to drive down cost of human genome sequencing
Baiyun Mountain	• Majority owned by Guangzhou State-Owned Assets Supervision and Administration Commission and subsidiary holdings including Charmacy Pharmaceuticals		34.03%	• Integrated research, wholesale and retail distribution of Chinese and Western medicine • Launch of generic Sildanefil expected to generate sales comparable to that of Pfizer's Viagra

48 "The Chinese Pharmaceutical Industry: Winners and Losers 2017". PharmExec.com. 11 February 2018. http://www.pharmexec.com/chinese-pharmaceutical-industry-winners-and-losers-2017
49 Information obtained from MarketScreener by 4-traders.
50 Information obtained from respective company websites.

Company	Shareholding ownership[49]	Revenue[50]	CAGR	Activities
Sino Biopharm	• Largely co-owned by board of directors • Other investors include The Vanguard Group and BlackRock Fund Advisors		137.22%	• Research and development of biopharmaceuticals, modernised Chinese medicines and chemical medicines • Launch of a blockbuster drug and consistency recognition of other two blockbuster drugs in 2018
Shanghai Pharma	• Majority owned by Shanghai State-Owned Assets Supervision and Administration Commission • Other investors include China Securities Finance Corporation Limited and China Investment Corporation		23.67%	• Diversified research and commercialisation of innovative and generic drugs covering chronic and serious diseases • Successfully obtained clinical trial application for use of new recombinant monoclonal antibody and marketing authorisation for two tablets in 2018
Tier 3: Market value between RMB 25-50 billion (USD 4–8 billion)				
CR Pharma Group	• Largely state-owned		8.08%	• Continuous product mix and process optimisation in pharmaceutical manufacturing, as well as brand and operation management in retail and distribution • Collaboration with Pfizer to be the exclusive authorised distributor for Nitrostat
Zhejiang NHU Co.	• Majority owned by the Chairman • Other investors include China Universal Management and Da Cheng Fun Management		125.39%	• Innovation-driven development of balanced and sustainable solutions for chemicals • Known for industrial manufacturing of fat-soluble vitamins and nutrients
3SBio	• Mainly co-owned by Chairman and directors • Other investors include CITIC Private Equity Funds Management		90.35%	• Launch of first and only approved once-weekly hypoglycemic drug in China
Livzon Pharma	• Majority owned by Joincase Pharmaceutical Group Industry and Norges Bank Investment Management Value Partners		54.47%	• Manufacturing of bulk medicines and intermediates • Strategic shift in research focus towards antibodies and vaccines development in recent years

Cross-industry digital convergence

With digital disruption, the traditional models and boundaries between long-standing sectors have become blurred. In addition to traditional, inorganic growth strategies in the form of mergers and acquisitions, companies are also increasingly employing organic methods of growth to move into new business lines (see Case Study 7).

Globally, we see examples such as the acquisition of insurer Aetna by the retail pharmacy CVS, and the acquisition of tele-pharmacies by Amazon. Within Asia Pacific, the Chinese telecommunications company Tencent is also working with its partners on the construction of a new smart hospital in Shanghai, which will feature, amongst others, the use of Tencent's medical AI platform to integrate AI with medical treatment, as well as WeChat medical insurance payment systems to "humanise" the experience for patients[51].

Case Study 7

Matching markets with capabilities for market access

Companies can employ several different models to gain market access in new business lines, depending on the fit between their markets and capabilities. In general, there are four such models (see Figure 14):

Strength building

With the objectives of capturing market share and/or maintaining market leadership, this model aims to increase access within existing markets using existing firm capabilities. An example is the acquisition of Cardinal Health by Shanghai Pharma to strengthen its distribution presence in China, with ongoing plans to acquire more than 3,000 domestic retail stores over the next five years[52].

Footprint expansion

With the objectives of entering new markets and building regional depth and scale, this model aims to increase access within new markets using existing firm capabilities. An example is the move by Sompo Holdings, a traditional insurance business in Japan, into senior care services. As part of this initiative, it also launched an R&D centre for nursing care in 2017[53].

Gap filling

With the objective of gaining access to new competencies in key areas for vertical integration, this model aims to increase access in existing markets using new firm capabilities. An example is the acquisition of the contract research organisation, HD Biosciences, by WuXi AppTec to strengthen its R&D capabilities in target validation, and lead discovery and optimisation[54].

Segment expansion

With the objective of gaining access to new markets and capabilities for brand extension, this model aims to increase access in new markets using new firm capabilities. An example is the collaboration between HaloDoc and the Indonesian ride-hailing start-up Go-Jek in the integration of Go-Med, a medicine delivery service, into the HaloDoc mobile application[55].

51 "Fudan University, Tencent to Build Smart Hospital in Shanghai". Yicai Global. 22 November 2017. https://www.yicaiglobal.com/news/fudan-university-tencent-build-smart-hospital-shanghai

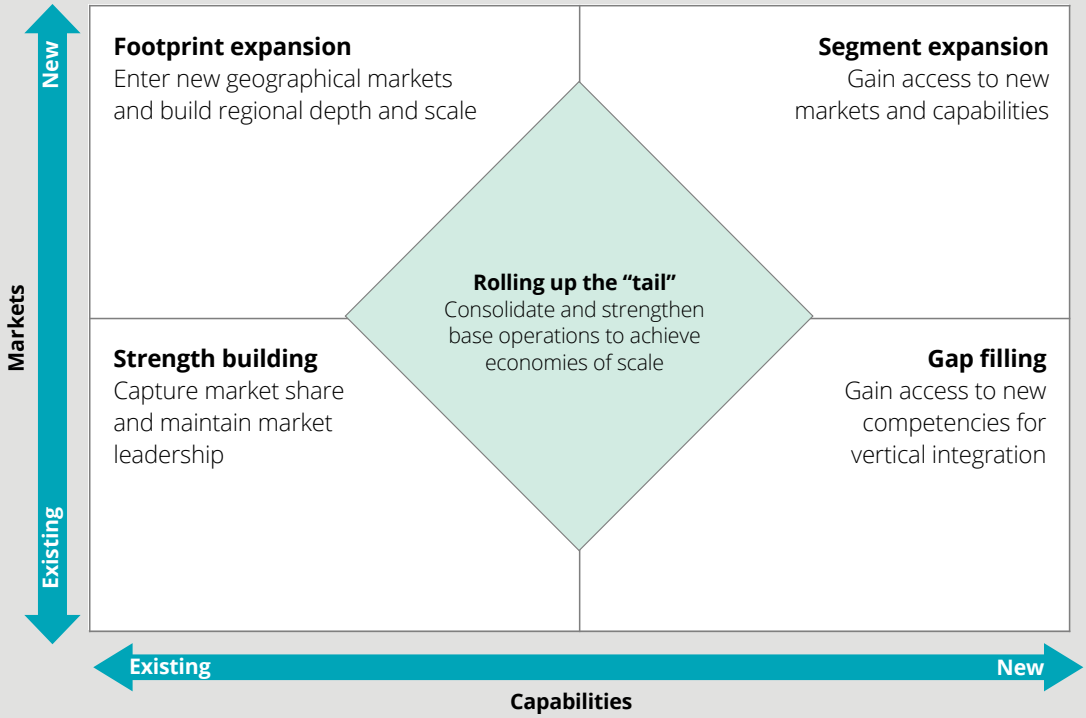
52 "Shanghai Pharma buys U.S. Cardinal Health's China business for $557 million". Reuters. 15 November 2017. https://www.reuters.com/article/us-cardinalhealth-china-shanghai-pharma/shanghai-pharma-buys-u-s-cardinal-healths-china-business-for-557-million-idUSKBN1DF0D5

53 "Nursing Care & Healthcare Business". Sompo Holdings. https://www.sompo-hd.com/en/group/care

54 "WuXi AppTec completes acquisition of HD Biosciences". PR Newswire. 15 May 2017. https://www.prnewswire.com/news-releases/wuxi-apptec-completes-acquisition-of-hd-biosciences-300457448.html

55 "Go-Jek integrates Go-Med into HaloDoc app as the two companies strengthen collaboration". Yahoo! News. 17 May 2017. https://sg.news.yahoo.com/jek-integrates-med-halodoc-app-two-companies-strengthen-020408588.html

Figure 14: Different models to gain market access



Digitisation of health care

Across Asia Pacific, local governments are prioritising information and communications technology development as one of their key national reforms. One of the implications of this trend on health care is its increasing digitisation, which would enable better management of population health data, and improve patient engagement, product development and other commercial activities (see Case Study 8).

Earlier in 2017, for instance, the Chinese government issued its 13th Five-year Plan on Science, Technology and Innovation detailing plans to develop technologies for precision medicine, establish a multilevel knowledge database, and create a national platform to capture and store biomedical big data[56].

Life sciences and pharmaceutical companies, too, are leveraging digital technologies in a bid to cope with pressures from patent cliffs and escalating costs. With cross-sector digital convergence, for instance, pharmaceutical and biotechnology players can now better collaborate in the adoptive cell therapy space (see Case Study 9). One such example is the partnership between Juno Therapeutics and the Memorial Sloan Kettering Cancer Centre in the development and commercialisation of therapeutic products[57].

56 "Precision medicine and cancer immunology in China". Science/AAAS Custom Publishing Office. 2 February 2018. http://www.sciencemag.org/sites/default/files/GiantCRO_supplement.pdf

57 "Clinical manufacturing of CAR T cells: foundation of a promising therapy". NCBI. 15 June 2016. https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4909095

Case Study 8

AI diagnostics

One recent application of artificial intelligence (AI) technology has been in the area of diagnostics. In 2017, China's Tencent launched an AI-powered diagnostic medical imaging service, known as the AI Medical Innovation System (AIMIS). Currently, the technology has demonstrated accuracy rates of over 90% for preliminary diagnoses of oesophageal cancer, 95% for lung sarcoidosis and 97% for diabetic retinopathy[58].

To date, AIMIS labs have been established in more than 10 hospitals, with agreements for further deployment to another 100 hospitals in China[59]. Tencent's Youtu Lab, its AI research lab, is also collaborating with the Sun Yat-sen University Cancer Centre's Oesophageal Cancer Research Institute in Guangzhou to leverage thousands of anonymised patient data to train the diagnostic component of its AI technology.

Such a development could have significant implications for the drug development process. For example, AIMIS images captured by Tencent's AI technology can be combined with XtalPI – a technology that leverages cloud computing platforms such as Amazon Web Services, Tencent Cloud, Google Cloud, and Ali Yun, to run its algorithms through the deployment of a million cores of computing power – to discover new products in silico[60], potentially drastically reducing the amount of time and hefty investments required for pharmaceutical companies to discover new products.

Case Study 9

CAR-T

The advancement of clinical trials for the CAR-T immuno-oncology treatment is one illustrative case of the potential that a convergence between the pharmaceuticals and biotechnology sectors can bring. Broadly, in the CAR T-cell process, a patient's own immune cells, known as T-cells, are extracted, preserved, transported, and modified in the treatment of cancer[61].

During the annual meeting of the American Society of Clinical Oncology held in June 2017, the Chinese firm Nanjing Legend Biotech demonstrated that its CAR-T candidate could be a safe and effective way treatment for relapsed or refractory multiple myeloma[62]. Furthermore, 94% of patients whose multiple myeloma had relapsed after previous treatments had clinical remission within two months of receiving the experimental product[63]. In the US, the Food and Drug Administration (FDA) has also approved the use of Tisagenlecleucel, which is marketed by Novartis as Kymriah, for the treatment of leukaemia[64].

Towards greater public-private sector collaborations

The scale and complexity of problems faced by the Life Sciences and Health Care industry lends itself to public-private partnership (PPP) structures that promote risk sharing and enable the exchange of critical expertise. The drug development process, for example, has historically been a very costly and risky endeavour[65]. In this context, PPPs – in particular, commercially-oriented PPPs that involve publicly funded research organisations and private pharmaceutical or biotechnology companies in early stage drug discovery – have emerged as a viable model to alleviate some of the risks associated with these ventures.

59 "How Tencent's medical ecosystem is shaping the future of China's healthcare". Technode. 11 February 2018. https://technode.com/2018/02/11/tencent-medical-ecosystem

60 "Tech giants tap into AI healthcare market". China Daily. 19 June 2018. http://www.chinadaily.com.cn/a/201806/19/WS5b28c128a310010f8f59daab.html

61 "CAR T cell therapy is a collaborative process". Juno Therapeutics. 2018. https://www.cartcellscience.com/car-t-cell-process

62 "After impressing at ASCO, Legend gains Johnson & Johnson as new CAR-T partner". FierceBiotech. 22 December 2017. https://www.fiercebiotech.com/biotech/after-impressing-at-asco-legend-gains-j-j-as-new-car-t-partner

63 "CAR T Cells: Expanding into Multiple Myeloma". National Cancer Institute. 12 June 2017. https://www.cancer.gov/news-events/cancer-currents-blog/2017/car-t-cell-multiple-myeloma

64 U.S. Food and Drug Administration.

65 "Public-Private Partnerships in the Pharmaceutical Industry". Asia-Pacific Biotech News. (n.d.) https://www.asiabiotech.com/18/1808/18080021x.html

Local governments, too, have realised the benefits of collaborating with the private sector to improve patient outcomes and accessibility, and are increasingly turning to PPPs as a potential channel for health sector improvements[66] in order to raise efficiency and productivity. A number of different PPP collaboration models can be found in the market, each varying according to the respective partners' collective interests, desired outcomes and specific risks (see Case Study 10).

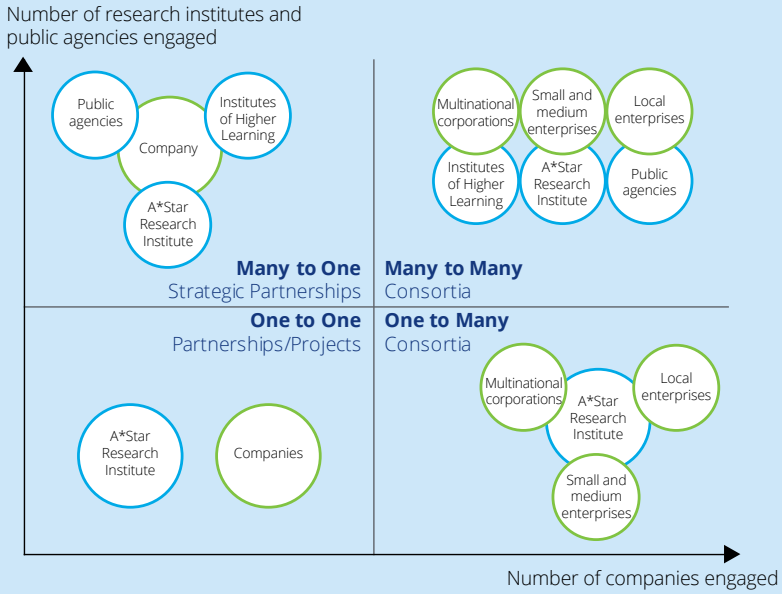
Case Study 10

PPP models in Singapore

Over the past few decades, Singapore has explored a number of different PPP models, with varying levels of distribution of risks and responsibilities – including management oversight, resources, and financial contribution – between the public and private players involved. Earlier in 1998, as part of its plans to transform from an entrepôt economy to one that is driven by knowledge and innovation[67], Singapore established a Science Hub in the Buona Vista area comprising the Biopolis, Fusionpolis and Mediapolis developments to enable public and private researchers to work side-by-side, and to incubate and grow ideas when meeting along hallways[68]. In its bid to build a vibrant health and biomedical science hub, the Agency for Science, Technology and Research (A*STAR) also adopted a multi-faceted approach towards industry engagement (see Figure 15)[69].

In 2015, Singapore also launched the Research Innovation Enterprise 2020 (RIE2020) Plan, a PPP initiative under which public research agencies and medical institutions collaborate on the development of an ecosystem to better enable the translation of research to improve health outcomes, with a focus on enhancing the efficiency of health services delivery[70]. Under RIE2020, five therapeutic areas of focus have been identified: cancers, cardiovascular diseases, diabetes mellitus and other metabolic or endocrine conditions, infectious diseases, and neurological and sense disorders. Grants and funding mechanisms, such as the Industry Alignment Fund Pre-Positioning and Decentralised Gap Funding have also been put in place to support this initiative[71].

Figure 15: A*STAR's multi-faceted approach towards industry engagement



66 "Public private partnerships for Health: PPPs are here and growing". Finance and Capacity for Results, Africa Health Forum 2013, The WHO Bank. 2013. http://siteresources.worldbank.org/INTAFRICA/Resources/AHF-public-private-partnerships-for-health-ppps-are-here-and-growing.pdf

67 "Interview with Chairman Philip Yeo". SMA News. 11 November 2009. http://news.sma.org.sg/4111/Feature.pdf

68 "20 years of Science and Technology in Singapore". A*STAR. 2012. https://www.a-star.edu.sg/Portals/0/aboutastar/2012_Commemorative_Pub_Webv6.pdf

69 Agency for Science, Technology and Research.

70 Ministry of Trade and Industry Singapore.

71 Ministry of Trade and Industry Singapore.

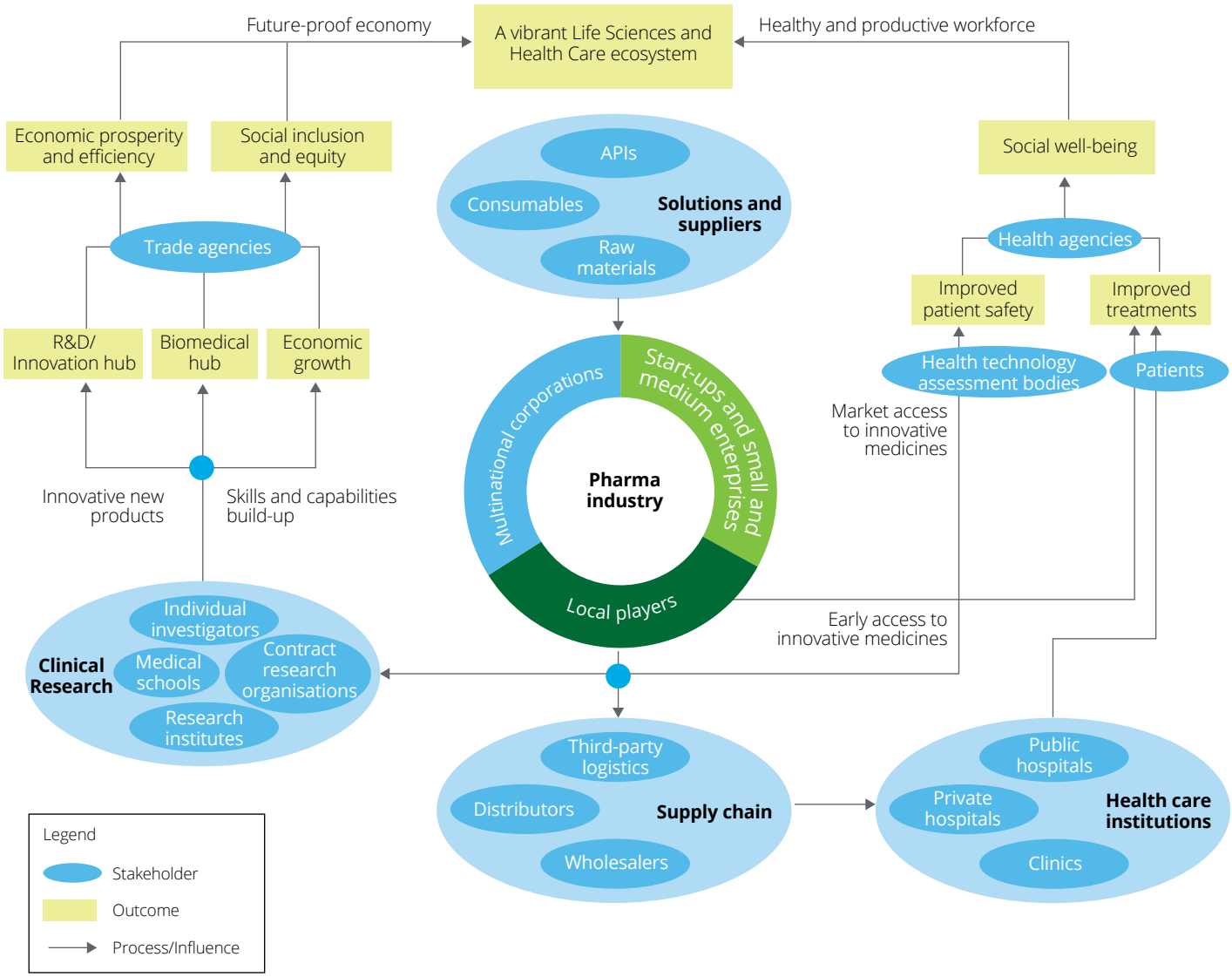
The way forward

With digital disruption, it is becoming increasingly difficult to draw distinct boundaries between industries, or even sectors. To thrive in such a landscape, Life Sciences and Health Care organisations in Asia Pacific must adopt an ecosystem view so that they can take a more proactive, rather than reactive, stance towards the latest developments. Specifically, they will need to re-examine their strategy in working with providers, hospitals, and health systems – and to do so with a deep understanding of the local context within this diverse region (see Figure 16).

As a start, organisations can begin by asking themselves the following guiding questions:

- What should an innovative and localised business model look like?
- How can we best tailor our offerings to meet the needs of the local market?
- Which local partnerships should we form?
- Which local talents, products, or services can we leverage?
- What are the latest local regulatory headwinds or trends that we should be aware of?
- What are the internal capabilities that we need to build or enhance to adapt to these changes?
- What are the top two or three high-impact initiatives that should be prioritised for implementation?
- Who are the local champions that we should collaborate with to drive the implementation of these initiatives?
- What are the risks and opportunities of engaging in these initiatives?
- How can we optimise our existing resources and choices to maximise value?

Figure 16: An ecosystem view of the Life Sciences and Health Care industry



Appendix
Market snapshots

Australia

2017 statistics	
Population	24.5 million
GDP per capita	USD 55,717
Percentage of urban population	89.7%
Average life expectancy	82.8 years

Key characteristics

- Heart disease is the leading cause of death, followed by dementia, stroke, lung cancer, and chronic respiratory conditions[72].
- Health expenditure is predominantly borne by the public sector. Out-of-pocket expenses are expected to rise in the future due to upcoming changes to the Medicare safety net.

Recent developments

- The government has indicated a commitment to reduce the financial strain on patients with the introduction of subsidies via the Pharmaceutical Benefits Scheme. As a result, Hepatitis C patients, for instance, will pay the subsidised price of USD 40 per month for the treatment, instead of USD 20,000 per month without subsidies[73, 74].
- New medicines that have already been approved by comparable regulatory bodies, such as the US FDA and European Medicines Agency, will now be fast-tracked for approval and sale.
- The Therapeutic Goods Administration introduced its Pharmacovigilance Inspection Programme in 2017 to facilitate the collection and examination of drug safety information, and to assess manufacturers' compliance with pharmacovigilance requirements[75].

China

2017 statistics	
Population	1.4 million
GDP per capita	USD 17,012
Percentage of urban population	58.2%
Average life expectancy	75.9 years

Key characteristics

- China is the most populous country in the world with a relatively high old-age dependency ratio (16%) by regional standards.
- 95% of the population is covered by some form of basic health insurance, with out-of-pocket spending falling from 57% of total health expenditure in 2004 to 32% in 2015[76].

Recent developments

- China aims to provide "safe, effective, convenient and affordable" health care to all residents by 2020. The "Healthy China 2030" plan, China's first long-term strategic health plan, aims to boost the number of doctors, reduce out-of-pocket payments, and increase average life expectancy to 79 years by 2030[77].
- China has one of the largest pharmaceutical markets in the world, and its size is expected to surge from USD 123.7 billion in 2016 to USD 573.5 billion in 2022, representing a CAGR of 30%[78].
- The government's Made in China 2025 plan identified pharmaceuticals as one of the key priority sectors in a bid to reduce reliance on foreign drug imports. The use of AI in drug development will also be a priority for the next five years[79, 80] .

72 "Dementia deaths continue to rise as population ages". Australian Bureau of Statistics. 28 September 2016. http://www.abs.gov.au/ausstats/abs@.nsf/Lookup/by%20Subject/3303.0~2015~Media%20Release~Dementia%20deaths%20continue%20to%20rise%20as%20population%20ages%20(Media%20Release)~10

73 "Hepatitis C drugs not being accessed by thousands of Australians with the disease". ABC. 12 February 2018. http://www.abc.net.au/news/2018-02-12/hep-c-drugs-ignored-by-thousands-of-australians-with-the-disease/9421472

74 "Government to subsidise 'revolutionary' Opdivo cancer drug for aussie patients". Huffington Post. 30 July 2017. https://www.huffingtonpost.com.au/2017/07/29/govt-to-subsidise-revolutionary-opdivo-cancer-drug-for-aussie_a_23056084

75 "Australia rolls out Pharmacovigilance Inspection Program". The Pharma Letter. 1 September 2017. https://www.thepharmaletter.com/article/australia-rolls-out-pharmacovigilance-inspection-program

76 Economist Intelligence Unit Database.

77 "China eyes life expectancy of 79 in 2030 health plan". The State Council. 25 October 2016. http://english.gov.cn/policies/latest_releases/2016/10/25/content_281475475062678.htm

78 "Opening up the Chinese drug market". Pharmaceutical Technology. 5 July 2018. https://www.pharmaceutical-technology.com/features/opening-chinese-drug-market

79 "Made in China 2025: The Domestic Tech Plan That Sparked An International Backlash". Sup China. 28 June 2018. https://supchina.com/2018/06/28/made-in-china-2025/

80 "Made in China 2025". Centre for Strategic and International Studies. 1 June 2015. https://www.csis.org/analysis/made-china-2025

India

2017 statistics	
Population	1.3 billion
GDP per capita	USD 1,878
Percentage of urban population	33.5%
Average life expectancy	68.1 years

Key characteristics

- Although communicable diseases, such as malaria, typhoid, and hepatitis remain prevalent, NCDs cause about 61% of deaths in India[81].
- Out-of-pocket expenses in India remain relatively high at 64% of health care expenditure[82]. The government is keen to introduce universal health care coverage with the launch of its National Health Policy in March 2017.

Recent developments

- In 2017, local pharmaceutical companies accounted for 80% of market revenue[83]. Their average revenue growth rate of 11.8% outpaced that of multinational pharmaceutical companies, which stood at 6.4%.
- Local players, such as Cipla, Dr Reddy's Laboratories, Lupin, Aurobindo, Cadila Healthcare, Sun Pharmaceuticals, and Glenmark's are investing in specialty pharma and biosimilars, in the areas of cancer, diabetes, and infectious diseases[84, 85].
- The new National Intellectual Property Rights policy that aims to combat patent infringement is likely to be favourable for pharmaceutical companies conducting research and innovation activities.

Japan

2017 statistics	
Population	127.5 million
GDP per capita	USD 38,329
Percentage of urban population	94.5%
Average life expectancy	83.6 years

Key characteristics

- Japan has one of the highest life expectancies in the world and this is expected to increase over time and result in increased public health care spending.
- Its ratio of physicians to patient population is expected to continue to lag behind other developed economies due to a shrinking younger population and strict immigration rules[86].

Recent developments

- The new Health Care System Reform Law is expected to move the management of the National Health Insurance, a programme under the universal health care coverage system, from the municipal level to the prefectural level. The reforms are expected to decentralise decision-making for better control at the community level[87].
- An integrated community care system (ICCS) is expected to be fully implemented by 2025. The ICCS will provide medical care, long-term care, long-term preventive care, living support, and housing services for local communities[88].
- In 2017, a total of 3,600 clinical trials were conducted in Japan. The majority of them focused cancer and geriatric conditions such as arthritis, Alzheimer's disease, and osteoporosis[89].

81 "Non-communicable diseases cause 61% of deaths in India: WHO". The Times of India. 20 September 2017. https://timesofindia.indiatimes.com/life-style/health-fitness/health-news/non-communicable-diseases-cause-61-of-deaths-in-india-who-report/articleshow/60761288.cms

82 "Expenses extremely high than in developed countries". The Hindu. 18 December 2017. http://www.thehindu.com/business/out-of-pocket-spend-makes-up-62-of-health-care-costs/article21860682.ece

83 "MNCs match Indian drug firms' growth". Federation of Indian Chambers of Commerce and Industry FICCI. 7 February 2018. http://ficci.in/ficci-in-news-page.asp?nid=13959

84 "R&D growth in pharma firms like Cipla, Dr Reddy's outpaces revenue growth". Business Standard. 28 September 2017. http://www.business-standard.com/article/companies/r-d-growth-in-pharma-firms-like-cipla-dr-reddy-s-outpaces-revenue-growth-117092800185_1.html

85 "The state of pharmaceutical industry in India – An overview". Economic Times. 29 August 2017. https://health.economictimes.indiatimes.com/news/pharma/the-state-of-pharmaceutical-industry-in-india-an-overview/60273583

86 "Japan's Prime Minster Shinzo Abe refuses to relax immigration rules despite shrinking population". Independent. 20 November 2017. https://www.independent.co.uk/news/world/asia/japan-immigration-shinzo-abe-refuse-relax-rules-prime-minister-policy-shrinking-population-foreign-a8065281.html

87 "Historical Overview". Japan Health Policy Now. http://japanhpn.org/en/historical

88 "Japan health system review". World Health Organisation. 2018. http://apps.who.int/iris/bitstream/handle/10665/259941/9789290226260-eng.pdf;jsessionid=58BED9B3EEA058BA2D016DD6AAE54A5F?sequence=1

89 World Intellectual Property Organisation Database.

New Zealand

2017 statistics	
Population	4.8 million
GDP per capita	USD 42,028
Percentage of urban population	86.3%
Average life expectancy	81.6 years

Key characteristics

- New Zealand has one of the highest bowel cancer diagnosis and death rates in the developed world. In its 2017 budget, the government allocated NZD 38.5 million of new operating funding to support the staged implementation of the national bowel screening programme over four years[90].
- Given the high suicide rates in the country, mental health is a key health care concern and the government has allocated an additional USD 159 million to improving mental health care[91].

Recent developments

- Although New Zealand continues to rely on international medical graduates to address voids in its health care resources, the government announced remuneration bands in 2017 for skilled migrants in a bid to strike the right balance in obtaining labour resources and ensuring that locals are ahead in the queue for jobs[92].
- New Zealand and the US are currently the only two countries that allow direct-to-consumer advertising of prescription medication. As of early 2018, however, efforts to ban direct-to-consumer advertising have attracted widespread support from representative bodies and consumer groups, although no formal policy changes have been announced[93, 94].
- In 2017, Medicines New Zealand, an industry association of prescription drug manufacturers, announced that it is working on a system of disclosing the perks that health care professionals receive from drug companies. However, regulatory progress is limited on this front[95].

South Korea

2017 statistics	
Population	51 million
GDP per capita	USD 29,929
Percentage of urban population	82.7%
Average life expectancy	81.7 years

Key characteristics

- Stroke has now become the number three most important cause of death in South Korea, down from number one, due to an improved quality of stroke care, and stronger public awareness of stroke symptoms[96].
- Suicide is a major health care problem, and the elderly are among the most vulnerable. The government wants to address this issue at the policymaking level with the objective of lowering the nationwide suicide rate from 25.6 per 100,000 people in 2016 to 17 per 100,000 people in 2022[97].

Recent developments

- The government has announced plans to inject KRW 500 billion into the pharmaceutical sector over the next 10 years, with the goal of producing 100 new drugs by 2026[98].
- However, the pharma pricing and reimbursement system in South Korea is considered to be among the most challenging in the world: a newly listed drug in Korea is priced at 45% of the average across OECD countries[99], and 26% of reimbursement applications were rejected from 2007-2015.
- The pharmaceutical market is highly fragmented, with more than 400 companies, including about 40 multinational companies, operating in South Korea[100]. As of 2016, four out of five commercially available stem-cell therapy medicines have been produced by Korea-based companies: Cartistem, Hearticellgram-AMI, Neuronata-R and Cupistem.

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Southeast Asia

2017 statistics	
Population	648.8 million
GDP per capita	USD 4,282
Percentage of urban population	49.2%
Average life expectancy	70.7 years

Key characteristics

- The number of hospital beds per 1,000 people differs widely across the region. In Myanmar, the ratio can be as low as 0.9, while in Singapore it is about 2.4[101].
- Although public spending accounts for the majority of the region's health care expenditure, the limitations and lack of depth in coverage of several national insurance schemes have driven a growth in private spending. Furthermore, the majority of private spending is out-of-pocket, especially for innovative medicines and treatments.

Recent developments

- In recent years, local governments in markets such as Indonesia and Philippines have been investing efforts in improving health care access. This is largely implemented through universal health care coverage, and policy reforms driving the adoption of generics.
- Local governments in the region are looking at ways to shift towards higher value-added sectors. In Thailand, for example, the government has indicated a strong interest in boosting local biopharmaceutical capabilities. In line with its Thailand 4.0 plan, the Board of Investments offers a wide range of tax and non-tax incentives to encourage multinational companies to set up in the country.
- As the competition for generics continues to escalate over time, key small molecule manufacturers, such as Kalbe Farma, CCM Biopoharma, and Pascual Lab, are attempting to venture or expand their business operations in the areas of biosimilars and biologics.

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