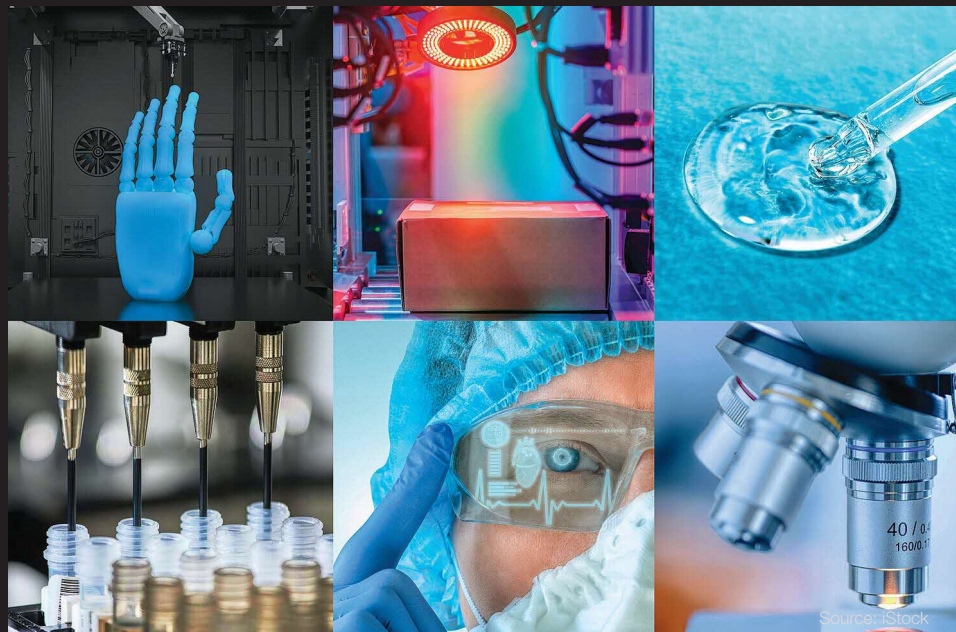


CIO Vantage Point



Healthcare: A Prescription for Growth

A Growing Need for Healthcare

The sector's persistent demand is buoyed by structural tailwinds, the Covid pandemic, and a rising silver economy.

Tools of the Trade

Innovative wearables, ageing populations, and burgeoning lifestyle diseases continue to fuel demand for medical devices and equipment.

An Uncommon Cure

The meteoric rise of orphan drugs offers important developments for the healthcare industry and pharmaceutical companies are set to benefit.

A Portfolio Staple

New areas of growth and the sector's defensive nature make healthcare a staple in portfolio construction.

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INTRODUCTION

Healthcare: A Prescription for Growth

Dear valued clients,

In this day and age, our watches don't just tell the time. They nudge us to stand, take a moment to breathe, and even alert us to irregular heart rhythms. Indeed, smart watches are as ubiquitous as they are innovative, and hint at the rise of medical devices—just one of many factors fuelling the healthcare trend.

Yet, when we consider the healthcare sector as a whole, its healthy performance comes as no surprise. As our report would show, it has consistently delivered strong earnings and share price performance in the past decade, thanks in no small part to long-term tailwinds. For one, ageing populations and longer lifespans continue to drive demand for goods and services that help to heal or delay the onset of disease. The Covid pandemic of recent years, while disruptive for other sectors, has proven to be more boon than bane.

In a bid to capitalise on an ever-evolving litany of illnesses and viruses, global R&D spending of pharmaceutical companies is projected to reach USD213b in 2024, nearly double that of 2010. Orphan drugs occupy a particularly interesting part of this picture. With its ability to treat rare diseases and potential to seed future drug patents, pharmaceutical firms stand to benefit from their rise.

What does it all mean for your portfolio? Buoyed by long-term secular tailwinds and inherently defensive characteristics, we believe that the healthcare sector has earned its place in any holistic portfolio construct. Among the sub-sectors in healthcare, we overweight pharma, equipment and devices, and life science tools for reasons outlined in the following report.

With this, I wish you good health and a healthier portfolio.

I hope you find this read insightful.



Hou Wey Fook, CFA
Chief Investment Officer

Healthcare: Poised to Heal

Snapshot

Introduction

A collision of forces. A global pandemic of shattering proportions; exponential advances in medical technology; a proliferation of new technologies and access to data; and an expansion from cure to prevention with growing emphasis on holistic wellbeing – these forces will prove to be catalysts for the medical and financial transformation that healthcare has long promised to the world.

Rising tide of the silver economy

As the incidence of illnesses increases with age, the growth of the silver economy will see a surge in demand for healthcare.

Greater healthcare spending drives TAM growth

Governments and companies have accelerated investment in healthcare, expanding its total addressable market.

Relentless R&D a key pillar of growth

R&D expenditure of global pharma companies is projected to reach USD213b in 2024, nearly double that of 2010.

Strong financials warrant investor attention

The sector has consistently delivered solid earnings and share price performance, offering superior shareholder returns.

Risks pertaining to investing in healthcare

Regulatory headwinds, increased reliance on technology, and medical fraud are key investment risks to consider.

Staple in the Barbell portfolio construct

With its defensive nature and substantial growth runway, the healthcare sector is a staple inclusion in our portfolio construct.

Healthcare: A universal and perpetual need

Yeang Cheng Ling
Strategist

Goh Jun Yong
Analyst

What the doctor ordered. Mortality has been a universal concern of humankind since time immemorial; references to the mythical “fountain of youth” were seen in western writings as early as 5th century BC, while texts from the Han dynasty documented the efforts of alchemists to concoct a pill that would grant the emperor immortality. Fast-forward to the 21st century, the human pursuit of longevity and self-preservation is stronger than ever and has now taken the form of a multi-billion dollar healthcare industry.

But as universal as healthcare is to the human experience, it had been relegated to being a counter-cyclical sector for a good part of the past decade. That is until the Covid pandemic quickly and dramatically brought the sector back into the spotlight and highlighted not just its defensive characteristics but also its substantial growth runway.

Strong historical performance. While Covid may have given a boost to this sector in recent years, it has consistently delivered solid earnings and share price performance since the start of the decade due to its long-term tailwinds. On top of that, the sector has also exhibited defensive characteristics as evidenced by lower volatility.

Positive secular trajectory ...



Source: Bloomberg, DBS

... and lower gyrations within cycles



Source: Bloomberg, DBS

Long-term tailwinds ahead. Beyond the pandemic, other secular growth trends underpin the healthcare industry, all of which warrant investor attention. Today, the healthcare sector accounts for a meaningful 12% of the global benchmark and is buoyed by the following structural tailwinds:

1. Ageing population and longer lifespan giving rise to increasing need for medical products and services
2. Greater medical expenditure on the back of rising disposable income and accumulation of capital
3. Continuous R&D leading to medical & technological advances

Tailwind 1: Ageing population and longer lifespan

Rising tide of the silver economy. As global life expectancy rises and seniors make up an increasing proportion of the population, an ageing global population will see a surge in the demand for medical products. As per Bloomberg data, the world had 730m people at or above 65 years at the end of 2020, equivalent to 9% of the global population. This number is projected to reach 930m by 2028, an increase of 27% over the next 8 years. The mammoth size of this group, comprising mostly of baby-boomers, will boost consumption of healthcare related services and solutions.

Tailwind 2: Greater medical expenditure and investment

Healthcare spend and investment to expand TAM. The spend on innovation in biotech research, drugs development, equipment & devices, and services will expand the sector's total addressable market (TAM).

US leads the pack. According to Bloomberg data, total annual healthcare expenditure in the US has risen tenfold since the '80s to USD4t in 2020, equivalent to one-fifth of US GDP in totality, making it one of the single largest expenditure categories.

Healthcare spending equivalent to 1/5 of US GDP



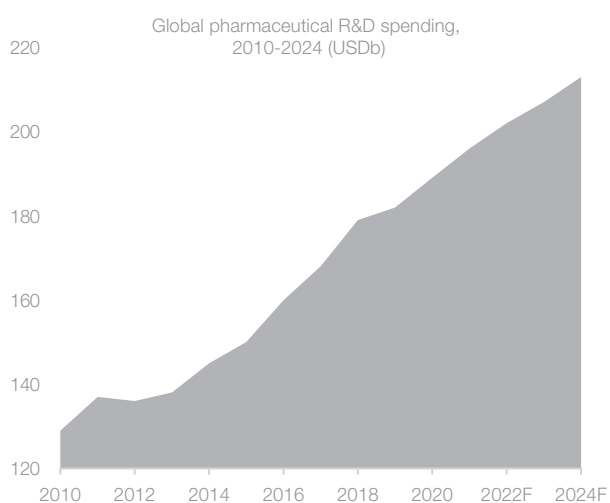
* PCE – Personal Consumption Expenditure
Source: Bloomberg, DBS

China rising. In addition to the US, China has also emerged as another large market for pharmaceutical drugs, healthcare services, and solutions. In 2020, China spent more than CNY1.1t (USD160b) on medical treatment and services. There is ample headroom for the world's second largest economy to catch up in terms of healthcare-related expenditure as the current amount is a mere 5% of China's GDP, compared to a much higher level of 20% in the US.

Tailwind 3: Expansion of TAM through R&D

R&D a key pillar of healthcare spending. R&D spending in the pharmaceutical industry has accelerated as firms strive to develop effective cures for an ever-evolving list of illnesses and viruses. Global R&D spending of pharmaceutical companies is projected to reach USD213b in 2024, nearly double that of 2010.

Global pharmaceutical R&D spending, 2010-2024F (USDb)



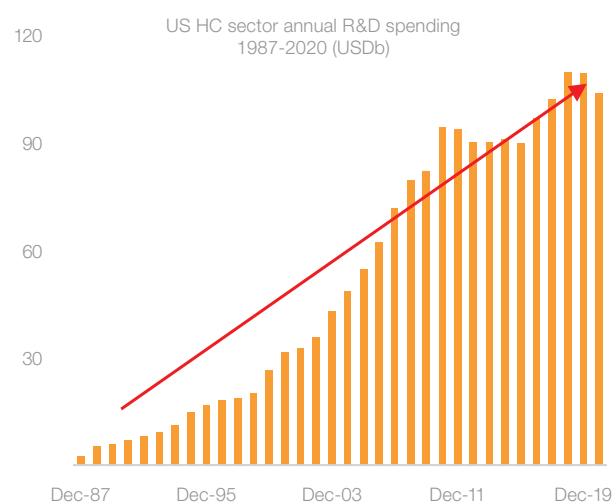
Source: Bloomberg, DBS

This spending includes R&D on new drugs and diagnostic/medical equipment. The US healthcare sector spends approximately USD100b a year on R&D while peers in Europe and Japan invest tens of billions.

Biological products – a growing area of focus.

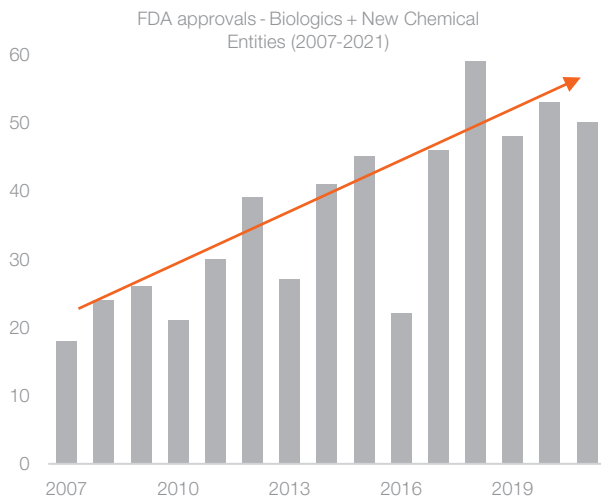
The US Food and Drug Administration (FDA) defines biological products or “biologics” in short, as products that are isolated from a variety of natural sources. There has been a growing focus on innovative products such as biologics in recent years as can be seen by the rising number of FDA approvals for biologics and new chemical entities in the past 15 years. As pharmaceutical and biomedical companies work relentlessly to discover new remedies, FDA approvals in this area have grown at a CAGR of c.8% from 2007-2021.

Relentless commitment to R&D spending



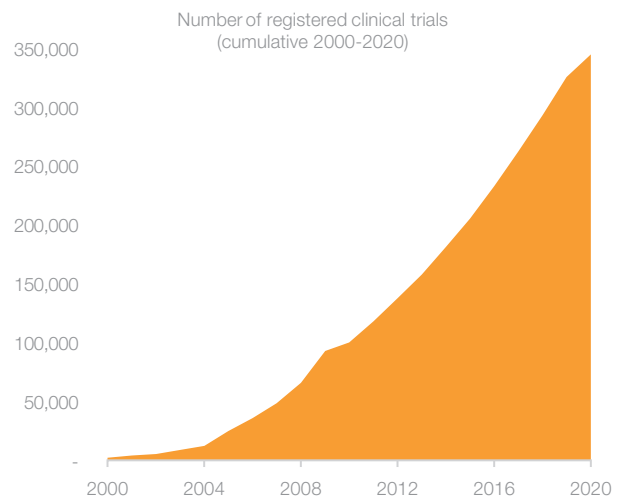
Source: Bloomberg, DBS

More cures are being developed



Source: Bloomberg, DBS

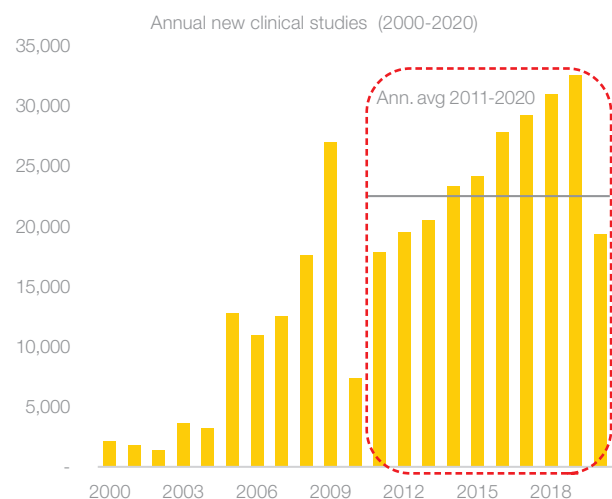
c.350,000 cumulative clinical trials since 2000



Source: ClinicalTrials.gov, DBS

Increase in clinical trials and studies. Since 2000, the US has cumulatively registered a total of 350,000 clinical trials for the development of new drugs, which has resulted in numerous medical successes and huge patent portfolios, especially for sector leaders. Over the last 10 years, healthcare firms registered an average of 24,000 clinical studies annually, or 65 new studies a day, a marked increase from the preceding decade.

Uncompromising efforts in medical development

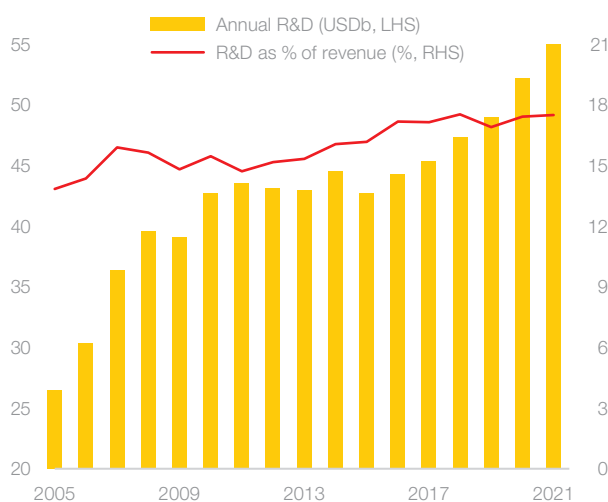


Source: ClinicalTrials.gov, DBS

Strong R&D spending in the EU and Japan.

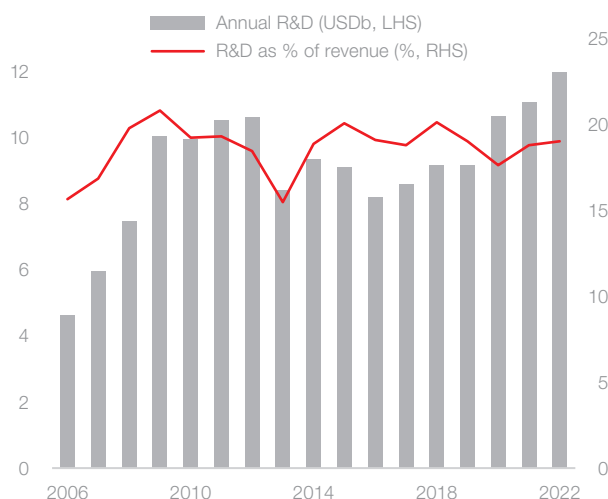
US companies are not the only ones to commit large spending to R&D. It is worth noting that R&D spending-to-revenue ratio among leading European Union (EU) and Japanese pharmaceutical entities have also stayed high at around 20%.

Europe healthcare firms R&D spending (FY2005-FY2021)



Source: Bloomberg, DBS

Japan healthcare firms R&D spending (FY2006-FY2022)



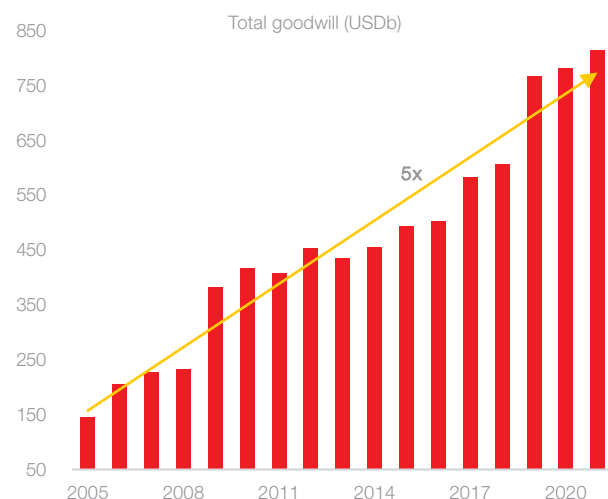
Source: Bloomberg, DBS

Patent expiration a speed bump, not a roadblock

While patented drugs are important to pharmaceutical companies, we believe that concerns about drugs entering the tail end of their patent periods are exaggerated for the following reasons:

1. **Total patent value on the rise.** It is worth noting the total value of patents in the hands of leading industry players globally has risen to a new high in 2021. As new remedies and cures are consistently being developed, new patents are being registered and add to the TAM globally. The total value of patents owned by leading healthcare firms in the US, Europe, and Japan increased 5x over the past 15 years, net of annual amortisation. The strength of healthcare firms' balance sheets enables them to safeguard recurrent revenue by investing in R&D to discover new drugs or acquiring patented drugs through M&A.

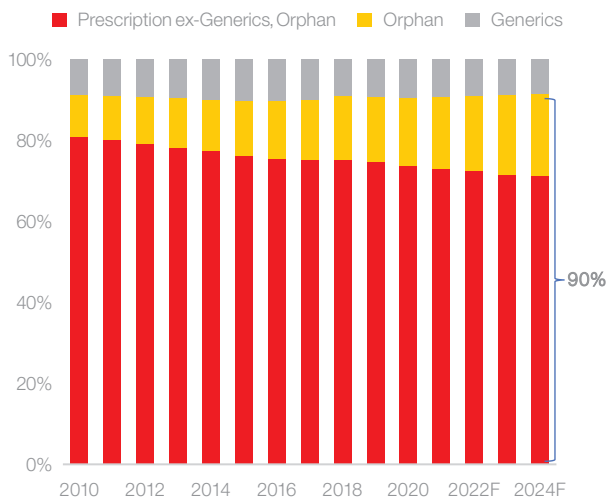
Well-armed patent arsenal of industry leaders



Source: Bloomberg, DBS

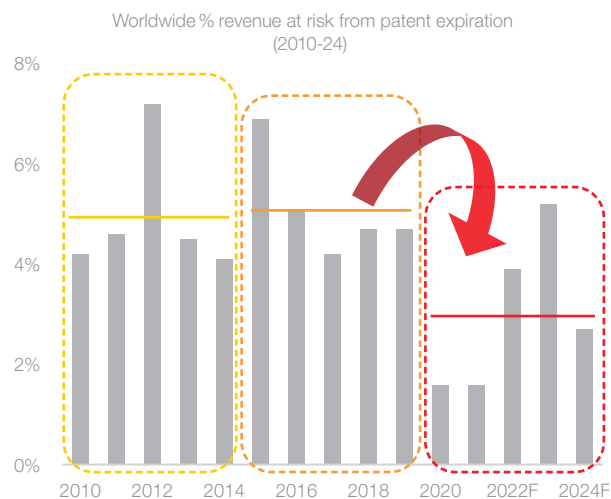
- 2. Discounts and Veblen effect to sustain demand even after patent expiry.** In addition to the development of new drugs and patents, pharmaceutical companies can reduce the selling prices of expiring patented medicines to narrow the premium between the expiring

Generic drugs are not a threat



Source: EvaluatePharma, DBS

Revenue headwind from patent expiration declining



Source: EvaluatePharma, DBS

patented drugs and generic drugs. But even without discounts, some patients prefer to pay more for branded drugs past patent expiry dates instead of generic drugs. Therefore, such drugs will still remain relevant in the world's healthcare prescription markets. Generic drugs account for less than 10% of total revenue share globally and are projected to stay within that range. Most of the revenue share remains firmly in the grip of leading pharmaceutical companies proffering branded and orphan drugs.

- 3. Diminishing top-line impact.** We believe concerns about patent cliffs have been overstated. The actual financial impact arising from patent expiration is relatively low. For instance, it comprised 4.9% and 5.0% of the sector's revenue globally respectively for the five-year periods of 2010-2014 and 2015-2019. From 2020 to 2024, this impact is predicted to be further reduced to 3.0%, easing pressure among healthcare firms.
- 4. Patent risk is firm specific.** Far-sighted industry players have also engaged in M&A to preemptively strengthen their patent portfolio and pipeline development. For example, American pharmaceutical firm AbbVie, which developed Humira (a biologic immuno-suppressant that is used to treat rheumatoid arthritis) employed an effective patent strategy to sustain the long-term commercial value of the drug. Ahead of Humira's patent expiry in 2023, AbbVie is already building and positioning Imbruvica, a non-chemo drug used to treat cancers such as mantle cell lymphoma, to be its next blockbuster product with 165 patents filed and 88 of them granted as of now. It has also obtained add-on patents to secure an additional nine years of extended patent rights, giving it commercial exclusivity of up to 29 years. Separately, the company

has also attained approval for next-generation immunology drugs Skyrizi and Rinvoq to potentially fill the gap left by the upcoming patent expiration of Humira.

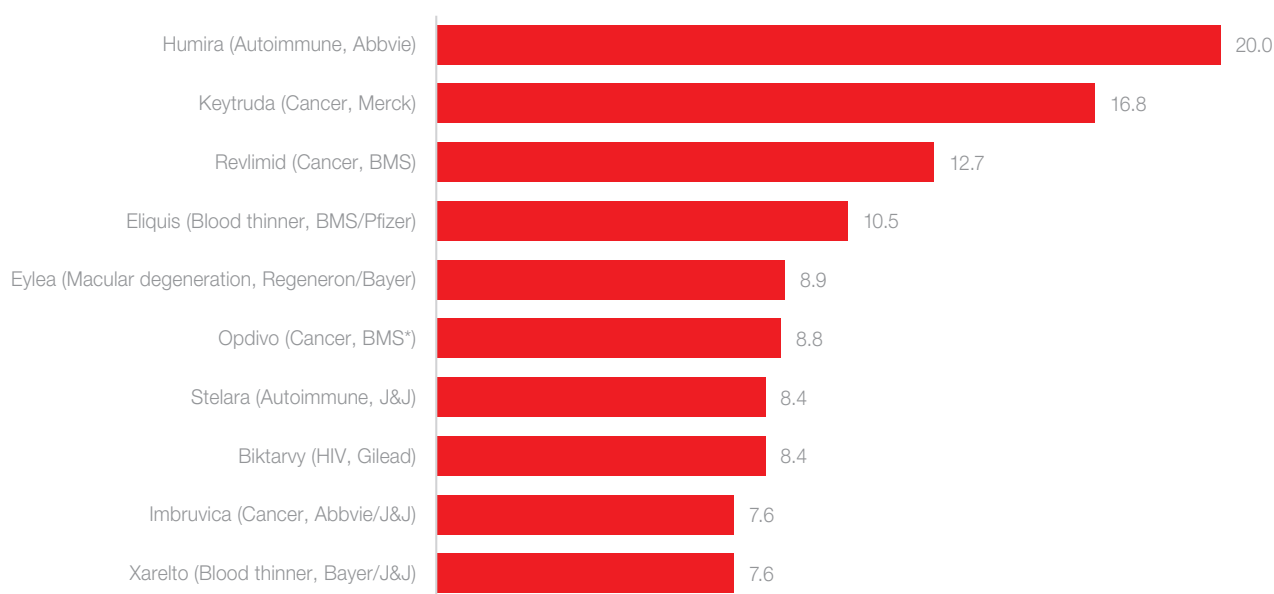
- 5. Healthcare firms offer more than patented drugs.** Industry leaders will continue to enjoy revenue generated from their core branded products, especially blockbuster drugs where healthcare firms have pricing power, a global presence, and patent privileges. To wit, the 10 best-selling drugs have generated sales values of more than USD100b in 2021. Although this annual figure appears large at first glance, it accounts for a mere 16% of the combined revenue of the top-15 (ranked by index weight) pharmaceutical and biotech firms, demonstrating the sector's well diversified revenue composition and low dependency on a single product. Besides having portfolios of

core drugs, firms typically have a wide range of remedies that play equally important roles in recurrent income generation.

Don't miss the forest for the trees. At the end of the day, while patent expirations do result in slimmer profit margins for specific drugs, the overall healthcare sector is still growing at a comfortable pace. Furthermore, as the timing of the expiration is known from the outset, leading pharmaceutical firms can plan ahead to build up an arsenal of new patents.

When investing in the healthcare sector, other principal fundamental factors such as earnings growth, profitability, profit sustainability, balance sheet quality, shareholder returns, cashflow generations, innovations, pipeline strength, and long-term dynamics of the global TAM should be taken into consideration.

Best-selling drugs in 2021 (USDb)



*BMS – Bristol Myers Squibb
Source: EvaluatePharma, DBS

A large crowd of people is walking along a city sidewalk, all wearing face masks. The scene is captured from a low angle, looking down the street. The sidewalk is paved with light-colored stones. On the left, there are trees with green leaves. On the right, there are buildings and more trees. The crowd is diverse in age and appearance. In the foreground, a woman with blonde hair is walking towards the camera, wearing a white mask and a light-colored jacket. She is carrying a brown bag and a shopping bag with the word 'PRIMARK' on it. Next to her is a man in a grey sweatshirt and black pants, also wearing a mask. Further back, a woman in a black jacket and black pants is walking. The background is filled with many more people, all wearing masks, creating a sense of a busy, crowded urban environment.

**Over the last 10 years,
healthcare firms
registered an average of
24,000 clinical studies
annually, a marked
increase from the
preceding decade**

Orphan drugs: An emerging frontier

The healthcare sector's dynamic progression along the healthcare value chain has placed emphasis on the following areas:

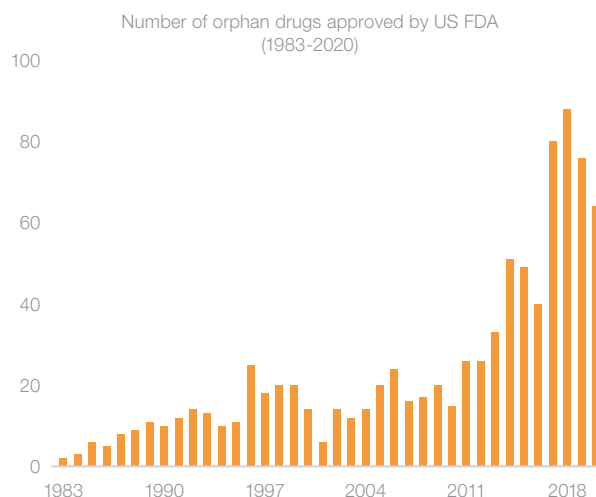
- Life-sciences and orphan drugs
- Development and improvement of equipment and devices
- Strategic M&A opportunities & expansion of balance sheet strength
- Sustainable profitability
- Digital transformation

Above all, we believe the orphan drug subsector offers important developments to the overall healthcare industry, and pharmaceutical firms are set to benefit from their rise.

What are orphan drugs? Orphan drugs are drugs that can treat rare diseases and their development is supported by government funding and regulations such as the Orphan Drug Act of 1983 in the US. Similar legislation was subsequently adopted by Japan in 1993 and the EU in 2000. Such regulatory support had seismic implications for the development of orphan drugs in the decades that followed.

Side-lined no more. The number of orphan drug designations granted by the US FDA has been on the rise since the early '80s, with some becoming mainstream cures for rare diseases.

Rising orphan drug approvals by the US FDA



Source: US FDA, Pharmaboardroom, DBS

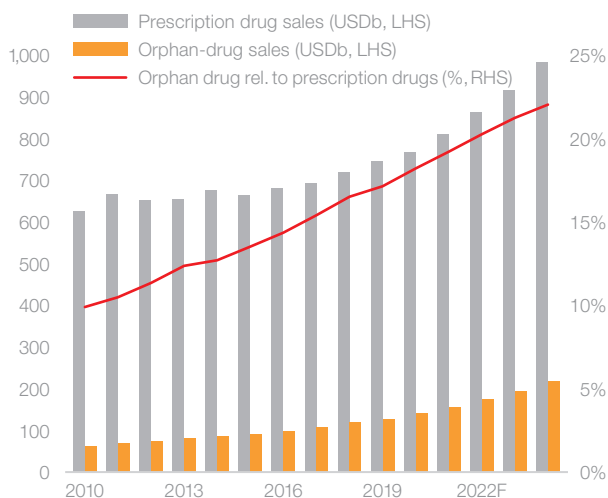
Tailwinds for orphan drugs. To understand the meteoric rise of orphan drugs, it is useful to look at the following factors:

- 1. Emergence of rare diseases.** At present, there are some 7,000 rare diseases impacting 400m people globally and counting, presenting a sizeable demand source for orphan drugs.
- 2. Technological advancements.** Big healthcare firms have built advanced R&D capabilities and large pools of data over time. These are invaluable assets in the development of orphan drugs. Progress in gene sequencing technology, for example, has directly or indirectly resulted in the development of not just orphan drugs but also many alternative medical treatments for a range of illnesses and disease.

3. **Seeding future patents.** At times, orphan drugs have become stepping stones for larger scale patented drug development, leading to new commercialisation opportunities.
4. **Legislative support.** It is not uncommon for government agencies to initiate medical innovation and drug development in critical times, usually in the form of data sharing, licensing privileges, and financial support. Such regulatory assistance is a great enabler for the development of orphan drugs.

Big pharma leads the charge. Backed by advanced R&D capability, credible track records, proven data pools, the capacity for large-scale clinical trials, and superior financial resources, big healthcare firms will remain in the forefront to identify new solutions and dominate the pole positions in orphan drug development.

Orphan drugs, an important remedy



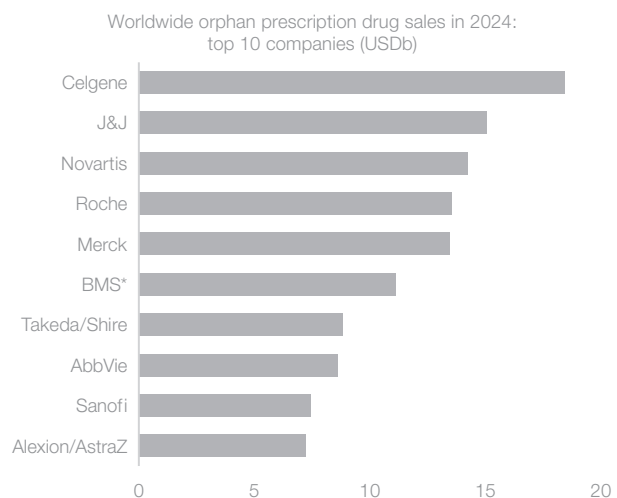
Source: EvaluatePharma, DBS

The next healthcare goldmine?

Uncommon cures for common illnesses. Based on a study by the University of Michigan, treatment of rare diseases accounted for 30% of orphan drugs revenue while the remaining 70% was generated from its use to treat common illnesses. Thus, orphan drugs have a much larger and rarely recognised effective TAM from treating regular illnesses. With orphan drugs currently accounting for less than 10% of rare diseases, this market segment has great potential for the years to come.

Growing ratio of orphan to prescription drugs sales. The global sales of orphan drugs reached USD62b in 2010, equivalent to 10% of the sales of patented drugs. Sales growth is forecasted to outstrip that of the latter and reach more than USD200b by 2024, equivalent to 22% of patented drugs. Total annual orphan drug sales among the top 10 drug

Projected prescription sales of orphan drugs in 2024 (USDb)



*BMS – Bristol-Myers-Squibb

Source: EvaluatePharma, Pharmaboardroom, DBS

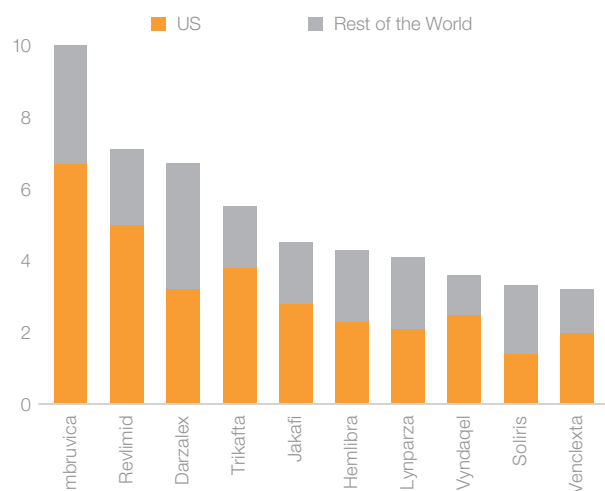
makers are forecasted to reach USD120b by 2024. The manufacturers and leading developers of these drugs are principally the major pharmaceutical firms, which also dominate the scene for patented drugs.

The commercial case for orphan drugs

While orphan drugs have been sitting on the periphery of boardroom agendas, industry leaders are now beginning to cotton on to their development, thanks in no small part to the following factors: marketing exclusivity, financial incentives, accelerated regulatory review, and shorter development cycles.

Orphan drugs do enjoy some commercial exclusivity. Notwithstanding that orphan drugs lack the extensive 20-year exclusivity offered by official patents, they still benefit from commercial exclusivity, albeit to a lesser extent. In the US, orphan drugs are granted commercial exclusivity of seven years and may receive an additional extension thereafter. In the UK, the same is granted for a longer period of 10 years.

Projected annual sales of top 10 orphan drugs in 2024, by type (USDb)



Source: EvaluatePharma, DBS

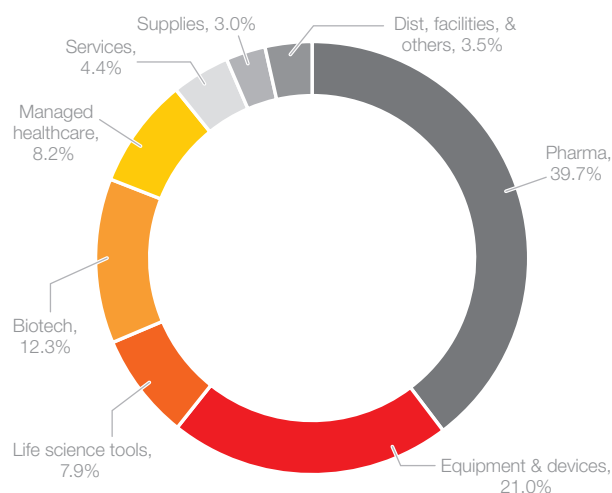
The 10 best-selling orphan drugs are expected to generate more than USD50b of annual revenue in 2024. The revenue outlook of this segment is set to rise with the increasing awareness of rare diseases and availability of orphan drugs.

To seize the opportunity of orphan drugs for a variety of immune-mediated rare diseases, AstraZeneca (AZN LN) acquired Alexion in a deal worth USD 39b, making it the largest healthcare deal in 2020. Similarly, Shire was acquired at a hefty price tag of USD81b by Takeda for access to rare disease drug development among other strategic reasons.

Medical devices and equipment ride healthcare's secular uptrend

Tools of the trade. Despite near-term headwinds posed by material shortages due to supply chain disruptions, as well as continued deferment of elective procedures due to new Covid variants, we believe that the medical devices and equipment sector still represents an area of growth for healthcare. Long-

Devices and equipment constitute one-third of the healthcare sector



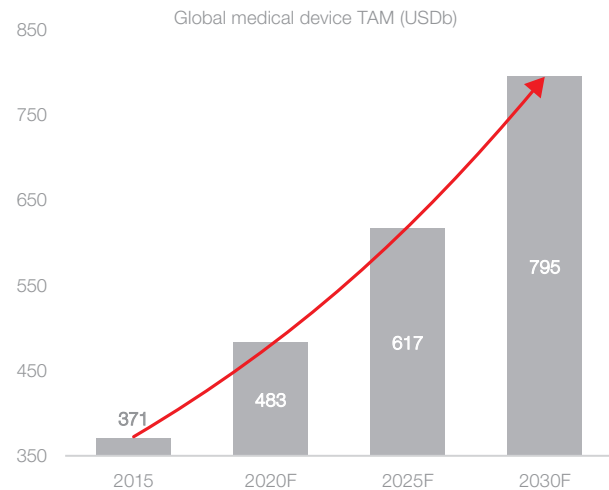
Source: Bloomberg, DBS

term secular growth trends such as increasing demand for innovative new devices (e.g. wearables) and services (e.g. health data analytics), ageing populations, and prevalence of lifestyle diseases such as diabetes and cardiovascular ailments, underlie the sector and position it nicely for expansion.

Here, we focus on medical devices and equipment that enable medical prevention, diagnosis, procedure, care, and cure such as X-ray equipment, MRI, thermometers, prostheses, biomedical apparatus, treatment tools, and diagnosis instruments.

Growing TAM and strong returns. By 2030, the collective global TAM of medical devices will reach

Global medical device market sales growing by leaps and bounds (USDb)



Source: KPMG, DBS

Examples of lifestyle illnesses, medical devices, medical device suppliers

Lifestyle illnesses	Medical devices	Suppliers
Type-2 diabetes	Diagnostic ultrasound scanners	Medtronic (MDT US)
Stroke	Scalpels	Thermo Fisher
Heart diseases	Patient monitors	Agilent (A US)
Hypertension	Defibrillators	GE Healthcare
Arteriosclerosis	Surgical tables & devices	Qualcomm Life
Swimmers' ear	Hospital beds	Stanley Healthcare
Chronic obstructive pulmonary disease	Disposables	Microsoft (MSFT US)
Cirrhosis	Infusion pumps	Honeywell Care Solutions
Obesity	Oxygen generators	Edward Lifesciences (EW US)
	Microneedles	
	Endoscopic coronary stents	
	Heart valves	
	Pacemakers	
	Orthopaedic implants	
	Lung ventilators	
	Biopsy devices	
	Mammography equipment	
	MRI machines	

USD800b, comprising some USD300b in US and USD200b in China. This sector has delivered strong and consistent returns over the long run, especially in the second half of the last decade. We expect this upward momentum to persist over the decade amid expansion of TAM in the environment of rising end demand and emergence of devices.

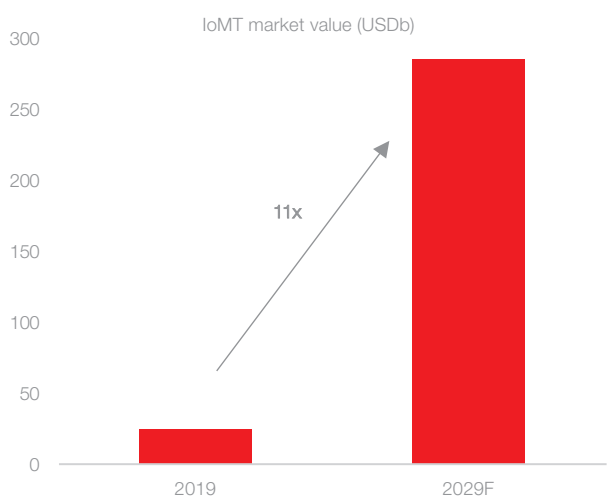
Strong digital transformation within healthcare services

IoMT to grow exponentially. The market of Internet of Medical Things (IoMT) was valued at USD24b in 2019 and projected to rise steeply by 11x to USD285b by the end of this decade, driven by rising validation, adoption, and commercialisation of these services. Big Tech firms like Amazon (AMZN US), Microsoft (MSFT US),

and Apple (AAPL US) have established alliances with precision - focused medical device makers to create multi-tiered integrated healthcare services on a single platform.

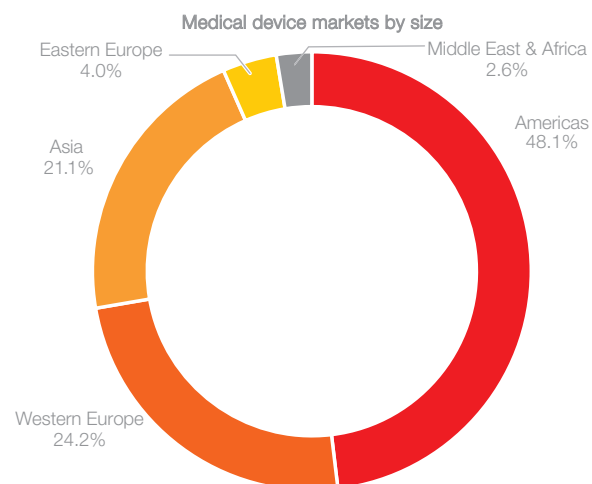
Future of healthcare lies in IT connectivity. The industry is undergoing digital transformation to enhance the effectiveness of tracking and finding new cures. Product makers are amalgamating smart functions into integrated devices connected through cloud-based platforms for real-time monitoring of patient data. For example, smart watches are used to detect cardiac arrhythmia conditions indicative of a stroke. The adoption of digital connectivity allows uninterrupted monitoring of patients to identify preventive measures ahead of life-threatening occurrences.

Internet of Medical Things – connected healthcare



Source: GlobeNewswire, DBS

North America dominated close to half the market share for medical devices, followed by Europe and Asia



Source: Khidi, DBS

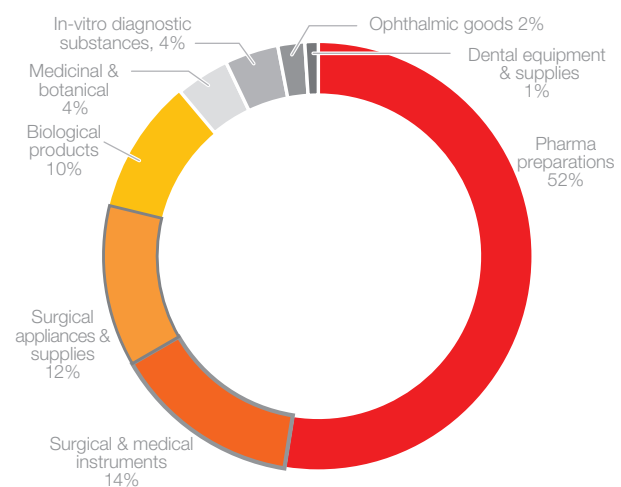
With digital innovation, healthcare providers can explore new perspectives:

1	On-demand healthcare services	Consumers to decide on timing to suit their own convenience
2	Internet of Medical Things (IoMT)	Based on predictions by Intel, by 2025, the worldwide TAM for internet of things (IoMT) will reach USD6.2t annually by 2025, of which 30% will be related to healthcare
3	Big-data collection and analytics	To reduce medication errors, identify, and track the common needs
4	Remote medical services	Enables long-distance, virtual and online interaction between doctors and patients, as some parts of medical services are moving to homes of end users
5	Use of wearable devices to monitor health data 24/7	Examples include heart rate trackers, exercise monitors, and oximeters to monitor the amount of oxygen flow in the bloodstream
6	AI-enabled medical facilities	Examples include nursing robots, droids to replenish medical supplies, and chatbots. AI may also be used in drug discovery, genomics analysis, and pattern recognition

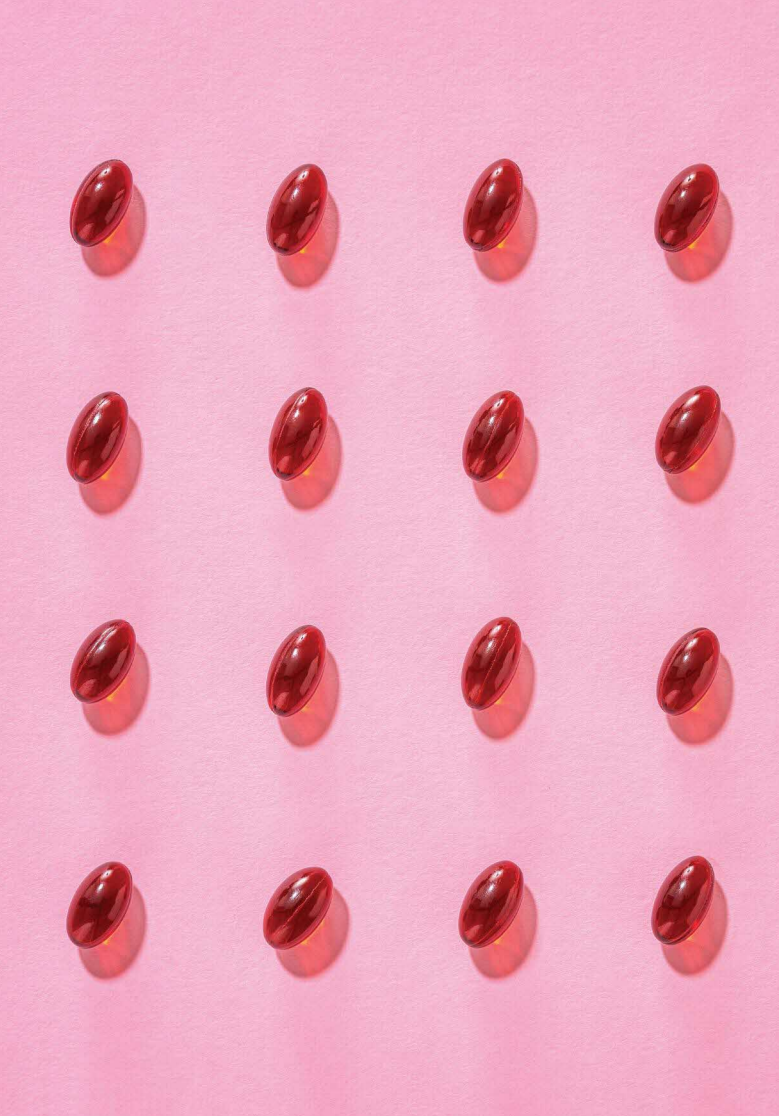
Source: With reference to Digitalauthority.me, DBS

US leads the world in MedTech spending. In terms of spending across various medical device segments in the US, the pharmaceutical preparations segment commands more than 50% of spending by value, followed by surgical and medical devices at 14%, and surgical appliances at 12%. Collectively, these segments account for the majority of spending as healthcare service providers continue to upgrade and procure new equipment to provide quality solutions.

Medical devices make up more than a quarter of US healthcare spending



Source: US Census Bureau 2018, PMMI, DBS



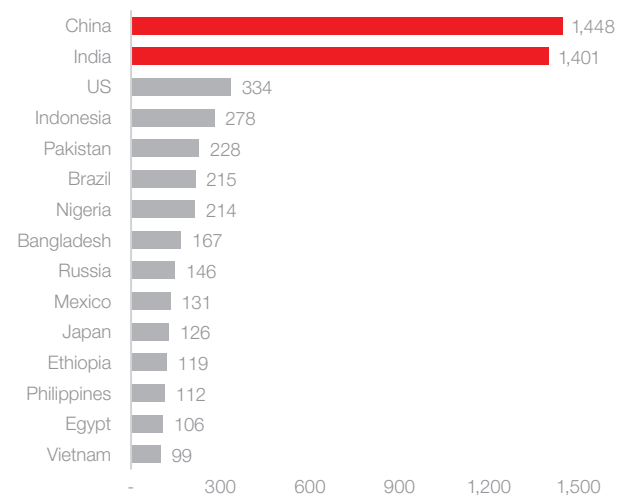
Asia Pacific – a new horizon for medical devices

Asia a fast-growing market. While North America has long been the core market for medical equipment and devices, Asia is projected to be the fastest growing market over the next few decades due to its vast population size and under-investment in medical facilities. Coming from a low base, Asia will expand its medical services capacity and modernise its healthcare systems and facilities.

Eight of the 15 most populous countries are in Asia, which comprises 3.8b people — nearly half of the world's population based on 2020 data. Sheer population size, fast-growing spending power of the middle-income group, ageing populations, and aspirations for better medical care will bring enormous prospects for the medical services and equipment sectors.

Health insurance a spending catalyst. This growth curve is further elevated by prevalent health insurance coverage to support healthcare spending. Rising insurance penetration rates and policy coverage are tailwinds to boost overall medical spending. Ascending life expectancy and rising spending power will continue to buoy the sizable opportunity in healthcare and its respective sub-sectors. Based on a recent survey by Emergo, the fraternity of global medical device makers remain optimistic about the demand outlook for US, Europe, and Asia markets.

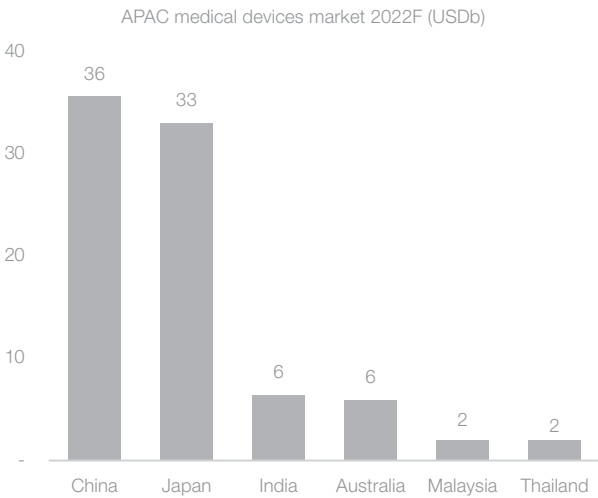
Majority of the world's most populous nations are in Asia (million population, 2020)



Source: Worldometers, DBS

Medical equipment self-sufficiency prioritised by governments. Ageing populations necessitate an increase in diagnostic devices and medical facilities. In 2022, it is estimated that Asia's populous nations like China, Japan, and India will collectively spend more than USD70b on medical equipment and healthcare devices. Specifically, the high level of allocations to medical devices will remain a top priority for governments in this region.

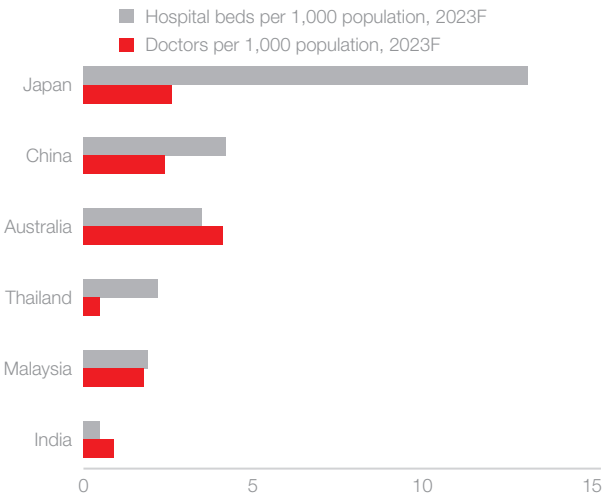
Asia’s increasing healthcare preparedness



Source: KPMG, DBS

Asia still in MedTech infancy. It is projected that in 2023, hospital bed ratios (less than 5 per 1,000 population in countries such as China, Australia, Thailand, Malaysia, and India) will still be at alarmingly low levels. The critical shortage of trained healthcare personnel will remain an issue. This will drive a perennial expenditure cycle where public healthcare systems and private hospitals in the region allocate more financial resources and expedite policy commitments to upgrade healthcare preparedness, medical facilities, diagnostic equipment, treatment devices, and personnel training.

Ample room for Asia’s medical service capacity to grow



Source: KPMG, DBS

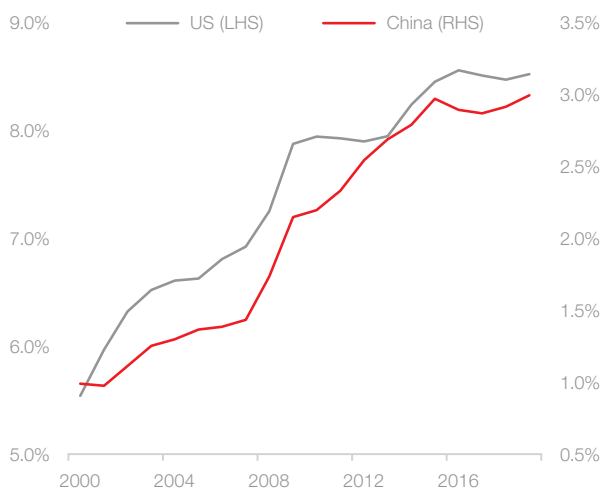
Tailwinds from ageing and government spending

Age-old problems. Ageing inevitably leads to a myriad of health problems, including the likes of osteoarthritis, muscle atrophy, and neurological conditions such as Parkinson’s and Alzheimer’s. As such, the need for medical care and use of medical devices can only be on the rise.

Chronic/lifestyle disease a key driver in device adoption. Based on analysis by the International Diabetes Federation in 2019, some 460m adults aged between 20-79 were diabetic, with this number set to rise to 700m by 2045 — nearly 10% of the current global population. This will establish a large market for devices used in managing and treating patients. And these are just figures for diabetes alone. Management of other chronic health conditions are likely to reflect similar demands.

Fiscal appetite to heal. Governments around the world are increasing their spending on healthcare. From 2000 to 2019, as a percentage of GDP, domestic general government health expenditure has risen to 8.5% from 5.5% in the US, and to 3.0% from 1.0% in China. Notably, the rising percentage allocation on healthcare expenditure were based on ever-growing GDP values over the years. To put this in perspective, in 2019, the US government spent nearly USD1.8t on healthcare expenditure, a three-fold increase from 2000 in absolute terms. Likewise in China, the government's healthcare expenditure surged 35 times to USD430b over the same period. We expect both share of GDP and absolute amount allocation of healthcare expenditure among nations to sustain their uptrends over the decade.

Healthcare expenditure, as % of GDP



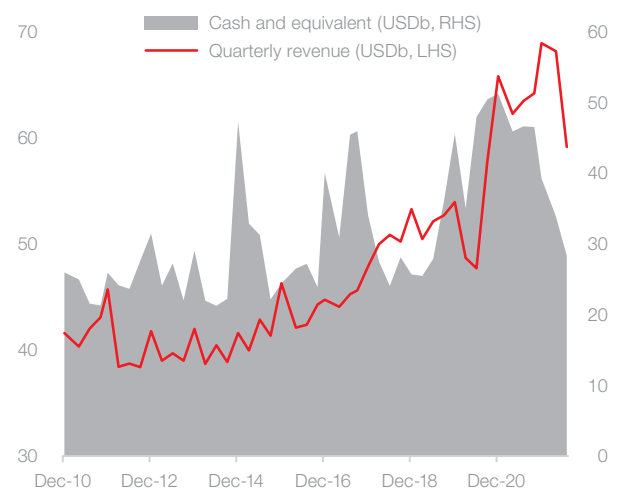
Source: WHO, DBS

Solid financials to drive M&A and capex spending

The 15 leading medical device firms globally generated more than USD60b of quarterly revenue as at end of 2021 and collectively have USD50b of cash to fund M&A activities. This strong cash generating ability is buoyed by rising end demand, pricing power, and operating scalability.

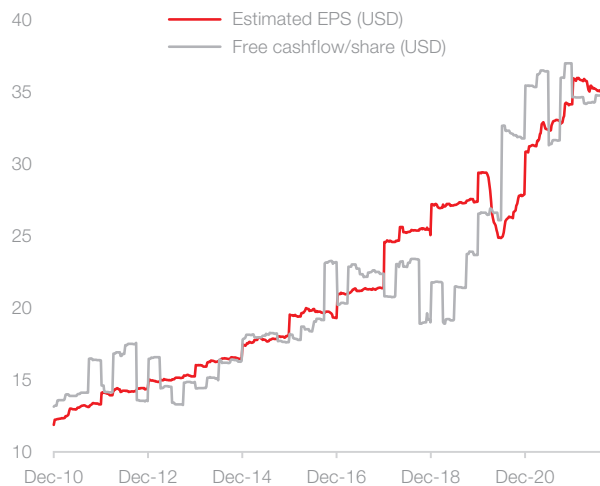
The thriving advancement and universal success of the healthcare devices industry came at the heels of its commitment in capital expenditure. Industry players have committed to growing amounts of capital and resources to meet changing medical needs, especially by way of new high-precision solutions and equipment.

Balance sheet strength to drive acquisition



Source: Bloomberg, DBS

Strong profit trends and superior cash generating power

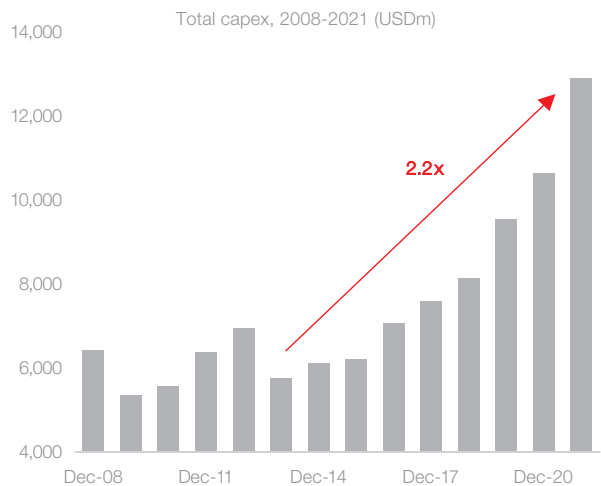


Source: Bloomberg, DBS

The broader capital spending in the listed healthcare devices sector has consistently yielded much higher returns than global equities. Since 2000, the listed fraternity delivered return-on-capital in the range of 7%-12%, where the average ROC of 10% impressively doubled that of global equities.

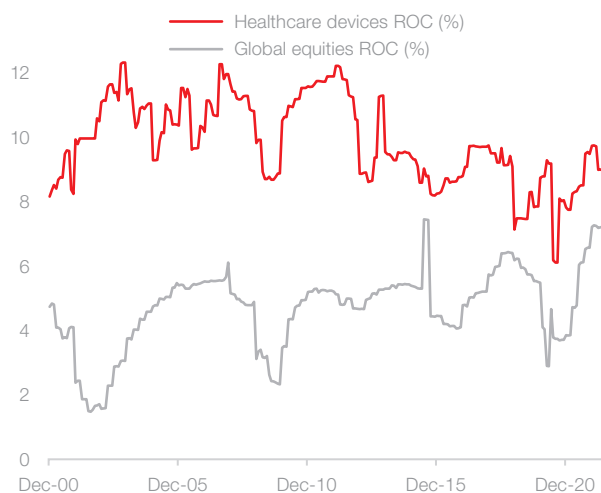
These strong numbers demonstrate the sector's unwavering ability to generate remarkable returns from capital invested and reward shareholders handsomely.

Capex spending by industry leaders



Source: Bloomberg, DBS

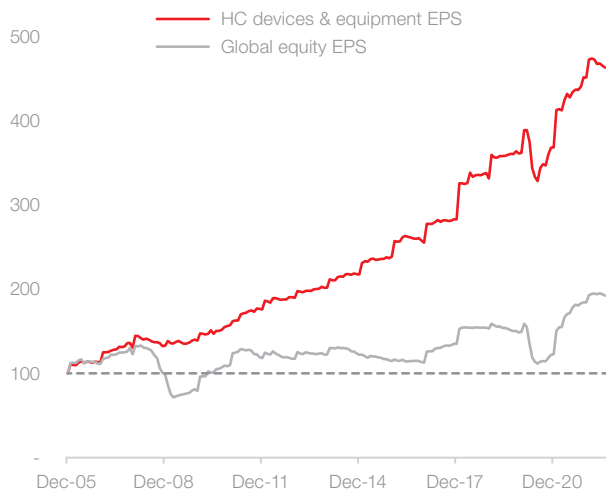
The sector has higher Return-on-Capital



Source: Bloomberg, DBS

Prominently, this segment has demonstrated resilience and was largely unscathed during market volatilities, thanks to robust end demand and rising acceptance of preventive care and use of advanced devices. Since 2005, earnings among healthcare device stocks have multiplied nearly fivefold, well ahead of global equities. This further substantiates the defensive-growth nature of broader healthcare and its respective sub-sectors.

Healthcare device earnings to outgrow global equities (2005 = 100)

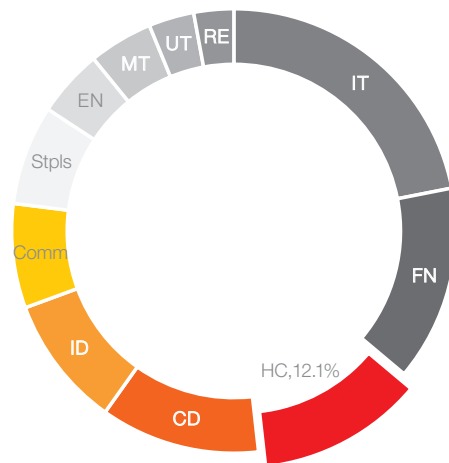


Source: Bloomberg, DBS

Investing in healthcare

A portfolio staple. With long-term secular tailwinds underpinning healthcare, developments in orphan drugs, and the rise of medical technology and equipment, the healthcare sector's growth prospects shine brighter than ever. In addition, the diversity, size, and 'defensive' nature of healthcare make this sector a staple in any holistic portfolio construct. Among the sub-sectors in healthcare, we overweight pharma, equipment and devices, and life science tools for reasons outlined in this report.

Healthcare is an important sector in a global context

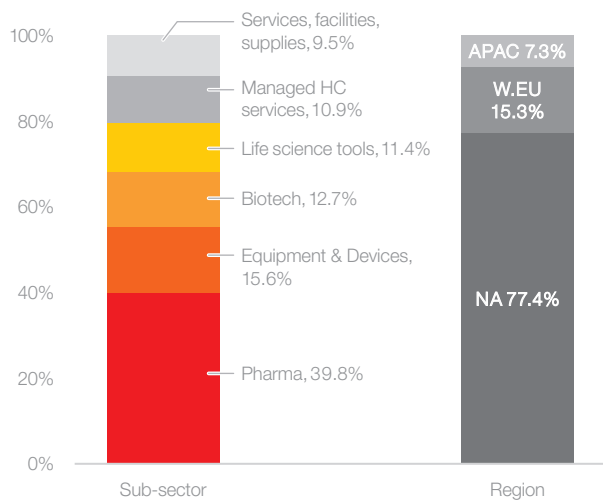


Source: Bloomberg, DBS



**Global R&D spend
of pharmaceutical
companies is
projected to reach
USD213b in 2024,
nearly double that
of 2010**

Pharmaceutical, equipment and biotechnology are the major sub-sectors, led by companies from developed nations



Source: Bloomberg, DBS

Big pharma advantage. Within the healthcare sector, it is advisable to invest in the bigger pharmaceuticals companies as they:

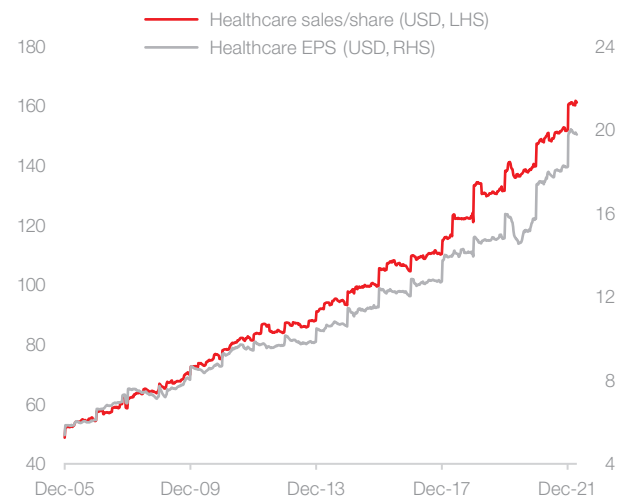
1. Possess the financial strength and expertise to conduct R&D and ensure patent protection
2. Have the resources to acquire prominent industry peers to ensure a continuous pipeline
3. Enjoy government subsidies to perform orphan drug research
4. Are trading at attractive valuations

Big pharma firms will continue to stay ahead of the curve in the markets they operate in, capitalising on industry-leading product portfolios, pipeline

capability, and market share. Their balance sheet strength, better R&D capability, and longstanding track records are important factors in defending their market positions. Over time, industry leaders have initiated partnerships with smaller and early-stage niche pharma firms to engineer better R&D results. This helps to overcome patent cliffs encountered by industry players who are presently running thin on drug trial pipelines.

‘Defensive-growth’ characteristics provide best of both worlds. Unlike cyclical industries, healthcare demonstrates a consistent trajectory of revenue and earnings uptrend over economic cycles. Using 2005 as the base year, we see how earnings of healthcare firms have largely outgrown global equities without undergoing any obvious mid-cycle obstruction.

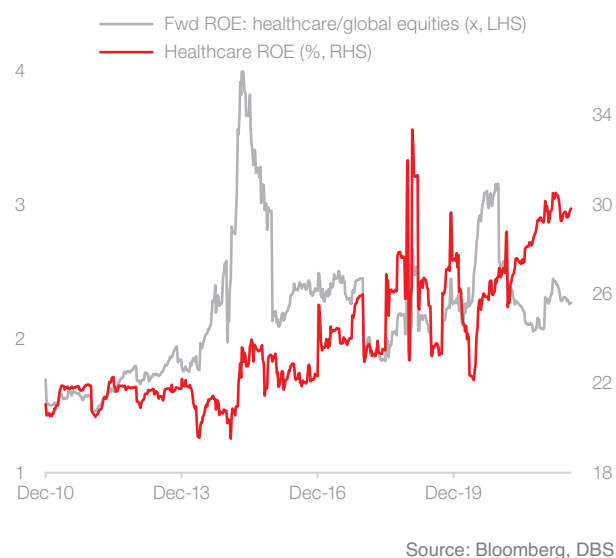
Sector’s revenue and earnings on a tear



Source: Bloomberg, DBS

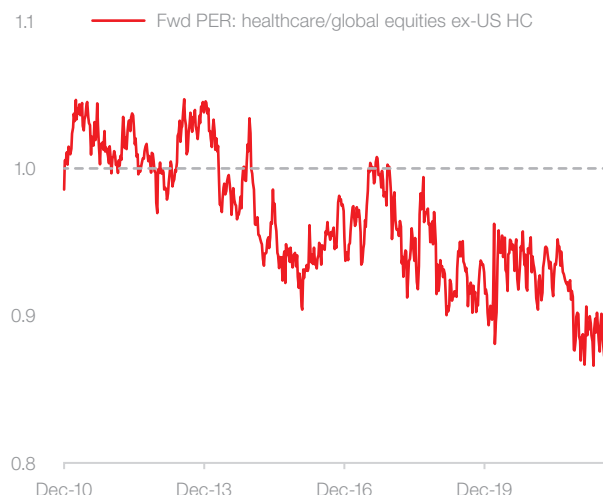
Superior shareholder returns. The sector offers superior shareholder returns on both absolute and relative basis. Its forward ROE expanded to 30% from 20% over the past 10 years, demonstrating healthcare firms' ability to generate greater profitability, more superior shareholder returns, and utilise capital efficiently.

Attractive shareholder returns



Attractive valuations at current level. From a relative valuation standpoint, the sector used to trade at premium to global equities. However, since the second quarter of 2020, the valuation premium has reversed into discount or par. We believe this sector's valuation discount to global equities is not justified given its robust and solid earnings potential and this undervaluation is an opportunity for investors to reassess this sector which has consistently delivered much higher shareholder returns relative to the global equity average.

Valuation discount unjustified



Source: Bloomberg, DBS

Buyer beware: Healthcare investment risks

Big brother's watching. While regulatory and legislative support can be a great enabler for healthcare companies, the opposite is also true; a tightening of regulatory framework can delay the delivery of new medical solutions and hamper the bottom line. The impact of existing subsidies and reimbursements should also not be underestimated. More often than not, the regulation and capping of drug retail selling prices remain high on the agenda for policy makers.

Technology a double-edged sword. While advancements in the field can propel some companies to stratospheric heights, it can likewise render others obsolete. Leading players can lose their footing if prudence and strategic planning

is absent. In addition, the increased reliance on technology also puts the sector at greater risk of cyber threats and data breaches.

Faux fixes. Fraud, along with the aftermath of class-action lawsuits and significant reputational damage, remains a key risk. The fall of Theranos, which promised an accurate diagnosis of diseases with just a drop of blood, saw founder Elizabeth Holmes guilty of fraudulently raising USD700m from investors before the scam was uncovered.

Keep in mind that all of these risk factors (with the exception of regulatory changes) are firm-specific or idiosyncratic in nature, and can therefore be mitigated through diversification and a careful bottom-up selection process.

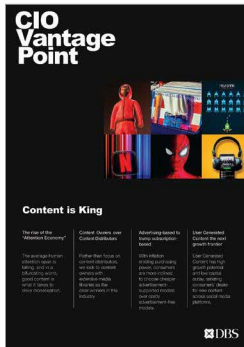
Conclusion

Given its long-term tailwinds, resilient earnings capability, and substantial investment flows, the healthcare sector has earned its place as one of the staple inclusions in our Barbell portfolio construct.

From a top-down perspective, we aim for exposure to the following sub-sectors within healthcare: i) pharmaceuticals; ii) biomedical and life sciences; and iii) equipment and device manufacturers.

Taking a bottom-up perspective, we select companies with strong revenue, earnings, as well as strong capital position — all of which will help to drive acquisitions and fund exceptional Capex, and contribute meaningfully to the growth side of the Barbell strategy.

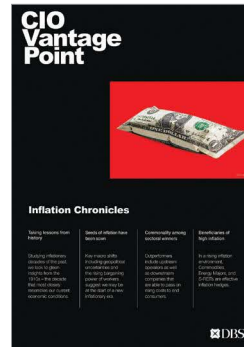
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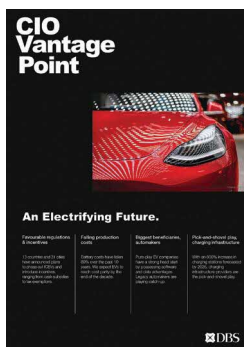
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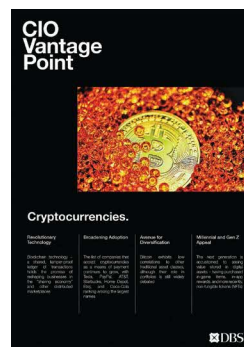
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