APACMed
The voice of MedTech

SINGAPORE MANUFACTURING FEDERATION
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VALUE-BASED PRICING FOR MEDTECH

A Collaborative Way Forward For Singapore

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Foreword from APACMed CEO

Dear Colleagues,

The MedTech industry is facing a rapidly changing healthcare ecosystem across Asia Pacific. Changing policy environments, increasing healthcare cost pressures, and evolving reimbursement systems are some of the key drivers impacting patient access to innovative medical technologies across the region. Countries in the region also have differing levels of understanding around which, when and how medical technologies should be evaluated. This presents a unique opportunity for stakeholders across the healthcare ecosystem to collaborate to ensure that value is at the heart of healthcare decision-making.

This paper highlights the industry's commitment to enhance patient outcomes and improve resource utilisation through investing in value-added services. These services are unique to medical devices and provision of these services requires continued investments, resources and collaborative partnerships between multiple stakeholders. Prices should reflect the approximate cost of delivering services in the most efficient way that enables quality and health outcomes. Pricing policy reforms may present a challenge for the industry to maintain similar level of services if there is inadequate stakeholder consultation or insufficient transition time.

Businesses thrive on a stable and predictable operating environment where proven technologies are recognised and incentivised. Industry can collaborate with government stakeholders, adopting a value-based approach to evaluate and price MedTech products. This can ensure that patient and physician choices are not limited by policy design and maintain access to innovative medical devices.

This paper provides suggestions for industry and government collaboration. We hope that this can pave the way for greater collaboration in Singapore and be an informative reference for other governments and stakeholders in the region who are also facing similar challenges.

Yours sincerely,
Harjit Gill
CEO, APACMed

Foreword from the Singapore Manufacturing Federation's MedTech Industry Group Chairman

Dear MTIG and APACMed Members,

In our rapidly evolving global landscape, the role of medical technology continues to be pivotal, not just as a force of healthcare innovation but also as a cornerstone of economic progress. Singapore, in particular, stands at the forefront of these advancements, with a medtech industry that not only drives domestic progress but also sets regional benchmarks.

The Medical Technology Industry Group (MTIG), under the umbrella of the Singapore Manufacturing Federation (SMF), is a testament to this leadership. Encompassing 60 multinational corporations, fostering 25 state-of-the-art R&D centres, and nurturing an agile ecosystem of 280 startups and SMEs, the MTIG embodies the fusion of economic potential with the quest for healthcare advancement. The commitment of the MTIG to the nation is evident in its unwavering dedication to aligning with national initiatives such as Healthier SG, seamlessly integrating with the government's vision and mission.

This white paper, a collaborative endeavour between APACMed and MTIG, encapsulates our shared aspiration - to further industry and government collaboration, specifically revolving around the implementation of the Medical Technology Subsidy List (MTSL) in Singapore. As other countries and regions grapple with the challenges of healthcare innovation and delivery, we envision this document serving not just as a blueprint for our domestic efforts but also as a beacon for governments and stakeholders beyond our shores.

Singapore's healthcare system enjoys global acclaim. Our enviable infrastructure is both a bastion of trust for our citizens and an incubator for pioneering healthcare innovations. As we look to the horizon, MTIG remains resolute in its belief that continued collaboration with the government is non-negotiable. It is this symbiosis that will ensure our shared objectives of refined healthcare outcomes and a cost-sustainable future. As Singapore continues to be a leader in healthcare innovation, MTIG stands committed to bolstering Medical Technology Start-Ups, emphasizing our nation's unwavering pursuit of excellence.

In conclusion, I am optimistic that this white paper will pave avenues for increased collaboration, serve as a reference for stakeholders, and continue to uphold Singapore's illustrious reputation in the realm of healthcare and medtech innovation.

Henry Tan
Chairman
SMF's MTIG

01 Executive Summary

The Medical Technology (MedTech) industry plays a significant role in Singapore's economic growth and healthcare innovation by hosting 60 multinational corporations, 25 state-of-the-art Research and Development (R&D) centres, and a dynamic ecosystem of 220 startups and Small and Medium-sized Enterprises (SMEs). The industry stands as a steadfast partner to the government, aligning with national aspirations, such as Healthier Singapore (SG). The industry's impact translates to improved patient outcomes, long-term cost savings and efficient resource utilisation.

Companies extend an array of value-added services that are unique to MedTech products, which are reflected in the price of products:

- Comprehensive technical training and upskilling of healthcare providers
- Remote patient monitoring to curtail hospital stays and in-clinic visits
- Continual technical support, product maintenance, delivery, and inventory management
- Constant innovation enhancing resource utilisation, operational efficiency, and patient recovery time

Holistic patient support ranges from financial coverage to disease or treatment management. The provision of these services requires continued investments, resources and collaborative partnerships between multiple stakeholders including industry, hospitals, healthcare professionals, research institutions and other service providers.

Singapore's Ministry of Health introduced the Medical Technology Subsidy List (MTSL), subsidising designated implants within Public Healthcare Institutions (PHIs). The MedTech industry acknowledges the positive intent of the MTSL and fully supports the objectives of the policy, which addresses health financing issues due to an ageing population, surging costs, and budget constraints.

However, it is also important to note that pricing reform policies promoting equitable access may have multi-dimensional implications for healthcare stakeholders. Regional and global analogues of instances of limited transparency or government-industry collaboration during pricing policy implementation have led to unintended consequences, including diminished patient and physician choice, compromised health equity, reduced investment and access to innovation, and potential risks to consistent quality and health outcomes.

To mitigate these impacts and invigorate collaboration, the MedTech industry seeks to engage in partnerships with Singapore government agencies to:

Promote open dialogue and further transparency on the MedTech evaluation process by:

- Fostering dialogue between government agencies, industry members, Asia Pacific Medical Technology Association (APACMed) and Singapore Manufacturing Federation Medical Technology Industry Group (SMF-MTIG) for collaborative decision-making
- Increasing transparency in MedTech evaluation processes, offering further advanced notice for robust evidence submission
- Increasing transparency of evaluation metrics for pricing policy reforms and opportunities for dialogue to refine metrics for collaborative decision-making

Support the effective implementation of MTSL by:

- Designing an observational model to collect real-world data through existing registries that will support the iterative implementation of the MTSL
- Implementing a phased approach for price adjustment
- Further clarifying the impact of the MTSL on public and private health insurance holders
- Considering a premium-based pricing methodology that optimally balances value and innovation

By fortifying partnerships and communication, the industry strives to develop innovative solutions to achieve national healthcare and financing goals while fortifying Singapore's leadership in MedTech innovation, world-class healthcare and world-renowned healthcare professionals.

02 Introduction

Singapore is home to over 50 regional headquarters for global MedTech companies, more than 25 R&D centres and a pool of over 220 MedTech start-ups and small to medium-sized enterprises. The local MedTech industry contributed S$18 billion in 2022 through its manufacturing output.

The MedTech industry is a driving force behind Singapore's healthcare landscape, spearheading R&D, and manufacturing in the region.[1–4] With over 50 regional headquarters for global MedTech companies and more than 25 R&D centres, Singapore is the leading country in Asia for MedTech innovation.[1–6] The sector's substantial contributions to the economy are evident, with the local MedTech industry contributing S$18 billion in 2022 through its manufacturing output, equivalent to that of the pharmaceutical industry.[7]

Supported by the government's dedication to establishing Singapore as a world-class biomedical manufacturing hub, the MedTech manufacturing sector has thrived, achieving an average growth rate of 8.5% between 2018 and 2020.[1-6] Boasting expert engineering capabilities and high-quality standards, Singapore attracts more than 60 multinational MedTech companies and a local pool of MedTech startups and SMEs producing high-value products, including implantable devices.[1-6] Notably, the projected revenue for Singapore's orthopaedic implant market is set to reach S$78 million and S$101 million in 2023 and 2028, respectively.[8]

With Singapore being one of the strategic focus countries of MedTech, it has reinforced its position as an innovation hub, attracting greater investor support for early-stage start-ups, both locally and overseas.[5,6,8,9] The Diagnostics and Development (DxD) Hub leads Singapore's local MedTech innovation through forging industry partnerships and bringing new products into the market. Singapore's strong presence of 25 R&D centres and a pool of over 220 MedTech start-ups and small to medium-sized enterprises form an ecosystem that fosters innovation and talent, enabling the development of next-generation products and solutions for the region.[10] Through incubator programs such as the MedTech Actuator, more than 200 Singapore-based MedTech start-ups have collectively raised S$1 billion in capital and created more than 900 jobs.[10] The economic value directly contributed by MedTech start-ups demonstrates the sector's commitment to Singapore's continued economic growth.

The MedTech industry's impact on health outcomes is also profound, facilitating accurate early disease diagnosis, reducing errors, offering less invasive treatments, and enabling faster patient recovery while reducing lifetime healthcare costs.[11] Through these achievements, the MedTech industry plays a pivotal role in advancing Singapore's economy, healthcare system, and overall societal well-being.

03 Industry is a partner of the Singapore government

The MedTech industry has forged a robust and symbiotic partnership with government agencies, actively supporting the healthcare agenda through diverse collaborative initiatives. These efforts encompass national priorities such as Healthier SG and Smart Nation, along with localised aspirations, exemplifying the industry's commitment to both national and localised goals.

Supporting preventative healthcare initiatives

Healthier SG — An initiative of MINISTRY OF HEALTH SINGAPORE

The MedTech industry has shown commitment to preventative health, in line with Singapore's Healthier SG initiative through the provision of health screening for early disease detection and community health programs.[12,13] For example, advanced ultrasound technology plays a vital role in early breast cancer detection, providing more accurate diagnoses compared to current standards.

Remote vital signs monitoring, contactless solutions like fall and movement detection, and advanced monitoring devices like electrocardiograms and Holter cardio monitoring further enhance patient care and prevention.[14]

Continued advancements in predictive diagnostics, precision medicine, virtual diagnoses, and patient monitoring hold promise in supporting Healthier SG's goal of early disease prevention.

Smart Nation SINGAPORE

Advancing tech-enabled solutions through continued MedTech innovation

The MedTech industry plays a crucial role in supporting Singapore's Smart Nation initiative through its innovative info-communication technologies and big data-driven solutions.[15] MedTech's development of robotics and assistive technology enhances the physical mobility and quality of life for seniors and individuals with disabilities.[15,16] The MedTech industry plays a crucial role in supporting Singapore's Smart Nation initiative through its innovative info-communication technologies and big data-driven solutions.[15] Additionally, MedTech's development of robotics and assistive technology enhances the physical mobility and quality of life for seniors and individuals with disabilities.[15,16]

The MedTech industry's commitment to supporting Singapore's tech-enabled solutions extends beyond Smart Nation's goals, showcased through initiatives like the annual MedTech challenge, "Healthcare InnoMatch 2022". The event which was supported by APACMed, the Temasek Foundation, and the Ministry of Health (MOH), aimed to spur the implementation of new technologies in preventative medicine, early intervention, and community care, providing innovators with an environment to demonstrate the value of solutions in trials, as assessed by patients and clinicians.[17]

APACMed's collaborations with Singapore's Cyber Security Agency, Health Sciences Authority (HSA), MOH, and Synapxe have resulted in the development of a cyber security labelling scheme for connected medical devices, with a pilot launched in 2022, further advancing the government's healthcare agenda.[18]

APACMed has also forged a partnership with the MOH Office for Healthcare Transformation (MOHT) to actively engage with leaders and startups in the MedTech industry to promote remote care initiatives. This collaboration leverages local capabilities to deliver inpatient care at homes through clinical services and telehealth solutions.[19]

In addition to partnering with government agencies to achieve Singapore's national agenda, the MedTech industry has also contributed to other localised aspirations. This encompasses efforts such as the healthcare emergency response, and the promotion of initiatives to propel economic growth and entrepreneurship.

During the COVID-19 pandemic, the MedTech industry played a crucial role in responding to healthcare emergencies in Singapore. It supported the government by mass-producing over 300,000 innovative diagnostic test kits per week with high sensitivity, ensuring a steady supply chain and providing uninterrupted care for patients in need.[20] Furthermore, the MedTech industry provided technologies, such as Sotera ViSi Mobile and Cadi ThermoSensor to automate the process of taking vital signs and ensure that patients were effectively monitored.[21] Industry-led discussions also facilitated safe border reopening.[22]

Innovation within the MedTech sector has driven economic growth and established Singapore as a world-leading innovation hub, creating over 17,000 jobs in various functions such as R&D, manufacturing, sales, marketing and medical affairs in 2022.[7] The industry has also actively supported local startup growth through involvement in incubators, competitions and challenges (Case Study 1). Government agencies such as Agency for Science, Technology, and Research (A*STAR) have provided training to over 1,500 clinicians, engineers, and industry professionals in workshop settings, including the Biodesign training that explored systematic approaches to develop innovations in healthcare by leveraging technology.[23, 24]

CASE STUDY 1

MedTech companies partnering with the government to support local startups

Johnson & Johnson	Johnson & Johnson launched the SG QuickFire Challenge Competition in collaboration with A*STAR's Exploit Technologies Pte Ltd (ETPL) and SMART, focusing on innovation in metabolic diseases such as diabetes and obesity.[25]
GLAUKOS TRANSFORMING VISION	Glaukos participated as a knowledge partner to support Singapore startups by evaluating commercial viability and acting as a panellist in seminars at events designed for clinician innovators.[18]
Medtronic	Medtronic organised the Medtronic Innovation Challenge for startups across Asia Pacific (APAC) to pitch ideas that address current healthcare needs. The top 5 winners received the opportunity to collaborate with Medtronic.[26]
Accuron Technologies	The Accuron MedTech Technology Centre (AMTC) is the first MedTech incubator in Singapore that unites startups and entrepreneurs through global partnerships to fine-tune its technologies before commercialisation.[27]
B|BRAUN	B. Braun Asia Pacific solidified its backing of a local MedTech incubator, Trendlines Medical, through a Memorandum of Understanding (MOU). This partnership will support the development of early-stage portfolio companies and signifies B. Braun's interest in exploring follow-on investment opportunities for these companies.[28]

The symbiotic relationship between industry participants, including MedTech Multinational Corporations (MNCs), local startups, and government organisations, such as A*STAR, has been instrumental in fuelling economic growth, entrepreneurship, and establishing Singapore as a leader in healthcare innovation. By supporting both national initiatives and localised efforts, the MedTech industry continues to be a valuable partner to the Singapore government, driving positive change and advancing the nation's healthcare landscape.

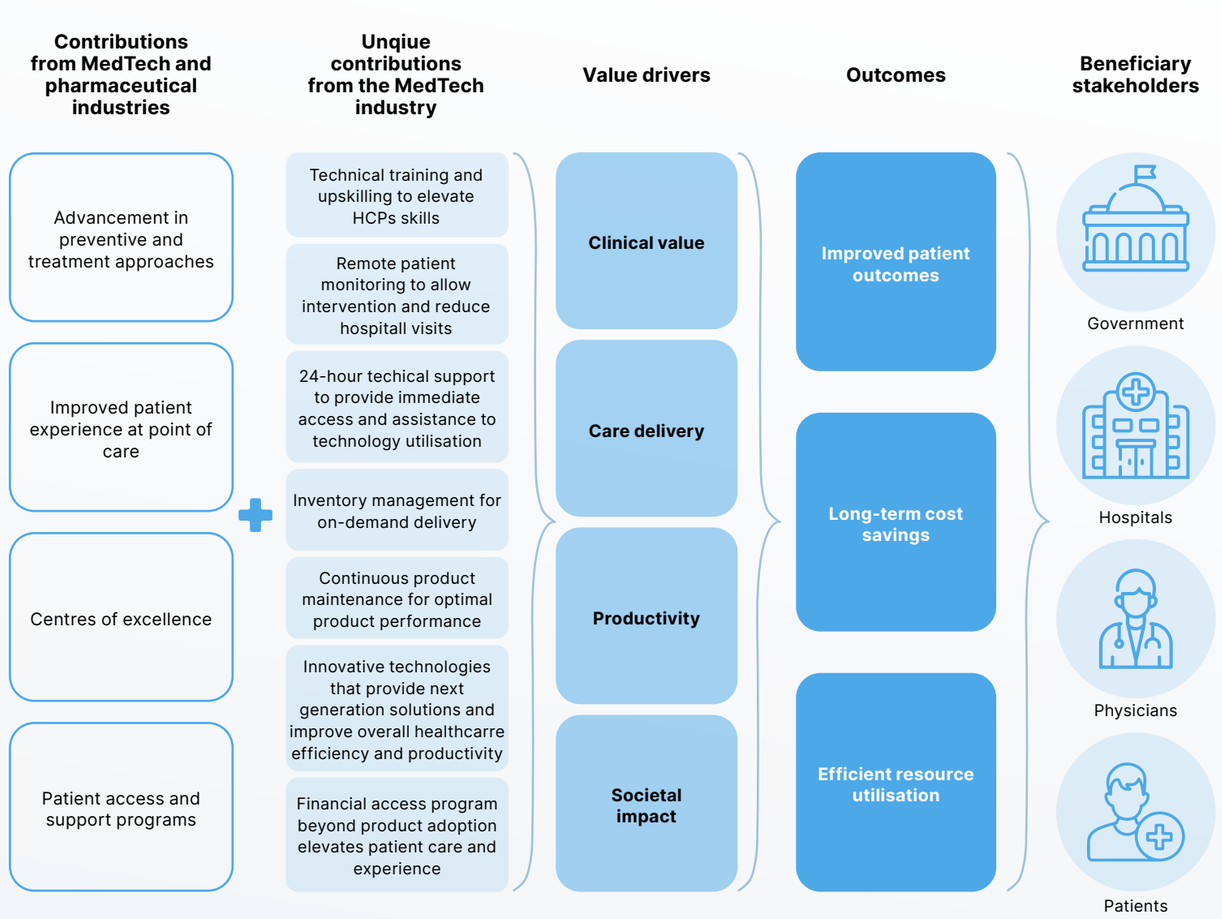
04 Supporting healthcare goals through value-added services

The MedTech industry's track record of innovation enhances patient outcomes, the cost-effectiveness of the healthcare system, and efficient resource utilisation.[20]

The industry invests significantly to equip physicians and healthcare providers with the necessary skills and technology for the effective use of these solutions. Distinct from the pharmaceutical industry, the MedTech industry operates within a more dynamic landscape that requires continuous innovation, with an average product lifecycle of 2 to 5 years (given continued updates and new features) compared to a drug's lifecycle of 20 years.

Moreover, unique to the MedTech industry, manufacturers provide a diverse range of training pre- and post-adoption of the technology, a comprehensive selection of product sizes and materials fit for a range of patients' anatomies and round-the-clock product delivery and support, especially during surgeries. These services not only provide clinical value, but also leads to improved care delivery, heightened productivity, and positive societal impacts, as illustrated in Figure 1 and elaborated below.

Figure 1:
Efforts from the MedTech and pharmaceutical companies, including distinct contributions, that enhance patient outcomes, generate long-term cost savings and optimise resource utilisation, benefitting key stakeholders



4.1 Technical training and education

MedTech manufacturers have a dedicated team of experts, including clinical specialists and engineers, who train multi-disciplinary teams of surgeons, nurses and relevant healthcare professionals before, during and after product adoption for seamless integration, precise positioning, and optimal MedTech operational practices.[29] Technical training is conducted in wet-labs on cadavers, dry-lab simulations and hands-on product demonstrations which require customisation to specific diseases and patient conditions. Different from a medical school curriculum which focuses on general care treatment, training offered by MedTech manufacturers is often conducted overseas, equipping HCPs with the latest innovation in medical care customised to specific diseases and patient conditions. Some of these innovations have a steep learning curve of about 6 to 12 months which requires the delivery of an ongoing training program. MedTech firms invite foreign experts to provide specialised training and procedures for local physician upskilling (Case Study 2, Case Study 3).[29] They also facilitate overseas training for local physicians and host regional knowledge-sharing events to ensure that Singapore's medical professionals are at the forefront of innovative MedTech.

These initiatives help maintain Singapore's position as an early adopter of innovative technologies, and cement local surgeons' position as the leading experts in the region while enhancing patient care.

CASE STUDY 2

Upskilling local physicians with innovative solutions, advancing standards of care

GLAUKOS TRANSFORMING VISION

Glaukos chose Singapore as the first Asian country to launch the first-in-class iStent Trabecular Micro-bypass technologies for the treatment of open-angle glaucoma and has trained over 80 glaucoma specialists in restructured hospitals, establishing them as experts in iStent technologies and micro-invasive glaucoma surgery (MIGS). Glaukos continues to support surgeons in optimal stent placement, ensuring good surgeon skill. Singapore's surgeons are recognised as key opinion leaders in the region for iStent technologies and MIGS. Their clinical studies on iStent technologies in normal-tension glaucoma patients have led to treatment adoption in multiple countries, from Japan to Australia, for this type of glaucoma that is more prevalent in Asian populations.[18, 30, 31]

CASE STUDY 3

Investing in physician training to enable patient access to innovative technology and improve patient outcomes

Medtronic

Medtronic Customer eXperience Center (MCXC) was launched in Singapore in November 2022 to drive remote access to innovative technologies and training.[32] The MCXC's network enables healthcare professionals to engage in state-of-the-art virtual technologies, provide immersive learning experiences, round-the-clock remote training and future healthcare technologies and innovation.[32] Notably, MCXC's remote extended reality cardiac training platform offers an immersive simulation of the latest medical devices through virtual technologies and augmented reality, enabling HCPs to gain firsthand experiences remotely.[32]

Smith+Nephew

Smith+Nephew launched the (S+N) Academy, a medical education and digital innovation centre covering the APAC region. The academy offers an engaging, immersive and interactive training environment for healthcare professionals from across the region. Healthcare professionals will experience the latest products and technologies to refine their techniques under the guidance of expert peers.[33,34]

Boston Scientific

Boston Scientific's Rezum™ technology, a minimally invasive therapy for benign prostatic hyperplasia (BPH) patients, won the Training Initiative of the Year award for an innovative training approach. The new Rezum™ technology reduces treatment time from 60 to 90 minutes to approximately 5 minutes, which shortens recovery time and enhances post-surgery quality of life. Launched during COVID-19, the training adopted a hybrid approach using hands-on training and digital engagement. The successful hybrid approach increased confidence in physicians to offer the Rezum™ procedure, resulting in positive patient outcomes and faster adoption of the procedure to patients in Asia.[35]

4.2 Centres of excellence

The MedTech industry invests significantly in advancing cutting-edge medical technologies, establishing Singapore as a global centre of excellence. This fosters collaboration among medical experts worldwide, facilitating the sharing of innovative technologies such as gamified learning practices, surgery simulations, bio skills labs for R&D testing, and learning academies. These initiatives enhance the surgeons' and healthcare providers' skillsets and productivity in performing clinical tasks, such as surgeries (Case Study 4).[18,34,36,37]

CASE STUDY 4

The MedTech industry's role in facilitating academic exchange and cementing Singapore's position as a centre of excellence

The MedTech industry actively fosters academic exchange within clinical societies and hospitals. This enables the dissemination of cutting-edge research, innovations, and best practices, enabling continuous learning, progress and advancements in medicine. Within the APAC region, Singapore serves as a knowledge-sharing and collaboration hub for medical professionals through hosting major international society meetings, such as the 2018 Singapore International Robo Expo and the 2023 World Society of Reconstructive Microsurgery.[38,39] The MedTech industry plays an instrumental role in these events by providing essential support and resources to facilitate seamless organisation and participation.[38,39]

The industry has also partnered with government agencies to cement Singapore's position as a centre of excellence. For instance, Johnson & Johnson (J&J) has signed an MOU with A*STAR to jointly establish a 3-year S$15 million Eye Health Digital Innovation Consortium. This public-private consortium includes ophthalmologists, academia and the industry to drive innovation that tackles pressing eye health needs. It will focus on improving eyecare delivery to patients by optimising public-private collaborations. This will be conducted by leveraging innovative technologies to facilitate trusted data sharing and create behavioural messages to improve eye health behaviours.[40]

4.3 Remote patient monitoring

MedTech including wearable devices facilitate patient recovery and remote monitoring, which help minimise hospital visits. Real-time data enables timely intervention, personalised care, and patient engagement, enhancing the quality of life per a Singaporean patient association representative.[41] At the hospital level, virtual monitoring optimises healthcare resource utilisation (Case Study 5).

CASE STUDY 5

Enhancing healthcare productivity with virtual monitoring

Alexandra Hospital has rolled out the Smart Ward ecosystem, enabling patients to receive hospital-level care in the comfort of their homes through teleconsultations and home visits by a dedicated team of doctors and nurses. Virtual nursing has successfully reduced the number of bedside nurses required by 30% and continuous remote patient monitoring ensured high-quality care.[42]

4.4 24-hour technical support

Surgeons in Singapore highly value 24-hour product technical support for MedTech products, including implantable devices. MedTech companies have a dedicated team to provide round-the-clock services for surgeons and are directly involved in supporting operating theatres. Relevant technical experts support surgeons during implantation procedures to ensure immediate access and assistance on technology utilisation.

Enhancing care delivery through advanced MedTech solutions

MedTech products, specifically Cardiac Implantable Electronic Devices (CIEDs), elevate patient care through continuous innovations in battery technology, programming algorithms and remote monitoring, leading to heightened complexity and durability.

Innovative cardiac mapping and ablation catheters have demonstrated enhanced precision, reduced repeat procedures, and minimised complications, while also decreasing fluoroscopy exposure to patients. For instance, by 2023, the estimated median total cost of providing these valuable CIED services in Australia is approximately S$91 million.[43]

To ensure continuous patient safety, improved clinical outcomes, and enhanced productivity, CIEDs require consistent technical support throughout their lifespan a facet where the MedTech industry diverges from the pharmaceutical sector by offering ongoing maintenance and assistance.

4.5 Inventory management for on-demand delivery

MedTech manufacturers operating in Singapore have built warehouses capable of swift product delivery, often within hours (Case Study 6). This expedited service delivers devices when they are not readily available at the hospital. The intricate process necessitates meticulous inventory management, along with a robust backend supply and delivery network.

CASE STUDY 6

On-demand delivery and consignment of MedTech to hospitals

Medtronic provides a 24-hour delivery service alongside comprehensive consignment solutions that allow hospitals to have access to a range of MedTech devices without immediate financial commitment to purchasing the item. Similarly, J&J extends inventory management services to hospitals, facilitating efficient consignment-based inventory oversight. These services guarantee the availability of standby supplies such as sutures, thereby enabling prompt product provisioning when needed.[18]

Case in point for costs associated with inventory management

MedTech enterprises frequently maintain an extensive inventory of diverse Stock Keeping Units (SKUs) encompassing varying sizes, types, and materials for a single product. This strategic approach ensures the delivery of precise and tailored patient care, catering to unique individual requirements. Given the consignment-based operational model of hospitals and the demand for devices not older than six months, MedTech companies undertake the production, stocking, and management of a broader spectrum of products than strictly utilised in practice.

4.6 Product maintenance

Advanced analytics, the Internet of Things (IoT) and machine learning are essential for continuous product maintenance and early detection of medical device faults, minimising disruptions to patients and hospital operations.[44] This value-added service provided by companies reduces healthcare service interruptions and enhances patient satisfaction.[44] MedTech manufacturers also provide personalised programming to meet the changing patients' needs post-surgery which allows healthcare professionals (HCPs) to deliver patient-centric care. Software updates are also provided after surgery to ensure optimal device performance throughout its lifespan.

4.7 Innovative technological solutions

MedTech products improve patient outcomes and quality of life by leveraging technological advancements that enable safer and less invasive surgeries. For instance, robotic-assisted surgery and virtual patient care, optimise the utilisation of scarce hospital resources by allowing surgeons to perform surgeries more efficiently and safely and care for patients from the comfort of their own home. This leads to long-term cost savings and improved health system efficiency (Case Study 7).[41,42] These surgical advancements also result in shorter hospital stays, allowing patients to return to work sooner, further boosting overall efficiency and productivity.[45,46] Through academic partnerships with local universities, MedTech startups have also provided next-generation solutions (Case Study 8).

Innovative medical devices deliver greater clinical value to patients

Patients evaluate medical devices based on side effects, device longevity, success rates, ability to perform daily tasks and social activities, and cost. For instance, the need for strong blood thinners with mechanical valves can significantly impact the quality of life. Additionally, a shorter device lifespan may necessitate replacement procedures. Offering innovative products can enhance clinical value, and improve patient outcomes and overall quality of life.

CASE STUDY 7

Enhancing healthcare productivity with robotic innovations

Mount Elizabeth Hospital (Novena) offers The Da Vinci series of robotic assistants to elevate minimally invasive surgery for enhanced clinical outcomes. These robotic assistants have effectively halved surgery time, provided exceptional precision and significantly reduced the need for blood transfusions due to minimised bleeding. Consequently, decreasing patients' hospital stays.[42]

The adoption of the Robotic Knee System at Mount Elizabeth Hospital (Orchard) represents a remarkable stride in orthopaedics. This robot-assisted knee replacement surgery leverages advanced imaging, meticulous surgical planning and robotic arm assistance for improved accuracy and personalisation in knee replacement procedures. Patients experienced improved implant positioning, enhanced joint mechanics and faster recovery times.[42]

CASE STUDY 8

Academic partnerships with local universities and research institutions to provide next-generation solutions

Biorithm partnered with National University Health System (NUHS) and Nanyang Technological University (NTU) to develop a wearable device that detects arrhythmias virtually in real-time through sensing Electrocardiogram (ECG) pulse.[11]

A partnership between a local medical technology company, Osteopore International, A*STAR, Institute of Molecular and Cell Biology (IMCB), Singapore Institute of Manufacturing Technology (SIMTech) and National Dental Centre Singapore received an S$18.3 million research grant to develop a next-generation 3D printed jaw implant that promotes rapid bone growth, reduces complex bone collection processes and simplifies the dental surgery process. This enables the use of minimally invasive and innovative surgical methods, leading to reduced surgical duration and faster patient recovery periods.[47]

J&J Vision formed a S$26.4 million partnership with the Singapore Eye Research Institute, for nearsightedness research. The partnership will explore myopia's development and treatment, aiming to create predictive tools identifying high myopia risk and researching preventive therapies.[48]

4.8 Long-term financial access programs

MedTech also extends financial support by helping patients navigate insurance coverage and co-pay assistance to access necessary treatment, product maintenance and aftercare.[49, 50] By empowering vulnerable and underserved patients, these contributions significantly enhance healthcare experiences and ultimately lead to improved health outcomes.[18] MedTech's provision of a comprehensive support system from treatment to aftercare elevates the post-surgery experience for patience while allowing surgeons to focus on providing optimal patient care.

Necessary costs with the provision of MedTech products

In contrast to the pharmaceutical sector, the MedTech industry's value-added services are vital for ensuring the safe and optimal use of their devices. Medical device expenses are significantly influenced by inventory management costs, representing over 40% of the total cost.[52] These costs permeate throughout the value chain, impacting the ultimate product expense. Notably setting the MedTech sector apart from pharmaceuticals, value-added services carry an estimated annual expenditure around S$91 million, taking CIED support services as an example. They constitute an indispensable component of MedTech product value assessment and pricing, underlining their significance.[52]

MedTech manufacturers make substantial investments in R&D and ongoing product maintenance, covering research, clinical trials, regulations, and intellectual property safeguards. In 2022, major medical device firms saw a 5.1% increase in annual global R&D expenditure from 2021.[53] These costs span the entire value chain, therefore even marginal shifts in margins can notably affect investments elsewhere.

The MedTech industry's core value drivers — clinical value, care delivery, productivity, and societal impact — are commonly integrated into routine business operations, absorbing associated costs. As the price placed on MedTech devices is reduced, it may be challenging for manufacturers to maintain the same level of value-added services in the future.

The MedTech industry will continue to collaborate with the Singapore government to attain national healthcare goals. The industry acknowledges current challenges — addressing healthcare for an ageing population, escalating costs, and budget limitations. The MedTech sector reaffirms its unwavering dedication to aiding the government in overcoming these challenges and fostering improved outcomes for all healthcare ecosystem stakeholders.

Achieving successful MTSL implementation through the identification of potential impacts on Singapore's healthcare system

05

Amidst global challenges of rising healthcare costs, resource constraints, and an ageing population, Singapore's government must prudently manage healthcare spending and resource allocation. To achieve this, policy shifts have been enacted, including the introduction of the MTSL, a 'positive list' of subsidised MedTech devices for use in public health institutions, as per the stipulated criteria for eligibility. The MTSL incentivises the adoption of clinically effective and cost-effective technologies, enhancing patient outcomes and optimising resource utilisation.[54]

The MedTech industry supports the intent of MTSL

The MedTech industry fully recognises MTSL's intent to optimise resource utilisation and bolster affordability and financial sustainability. Subsidy reforms such as the MTSL are important to help manage healthcare costs tied to high-cost devices, enhancing accessibility, and achieving long-term cost savings.[54]

While the industry recognises the implementation of MTSL as one of the solutions to ensure financial sustainability, such policies promoting equity of access may have a multi-faceted impact on the full spectrum of healthcare stakeholders. In instances where the implementation of pricing policies has taken place with limited transparency or collaboration between the government and industry, unintended consequences such as a reduction in patient and physician choice, health equity, investment and access to innovation and the potential risk of inconsistent qualities and health outcomes from price-driven decision making have been seen.

CONSIDERATION 1

Maintaining patient and physician choice

Maintaining patient and physician product choice is essential for optimal health outcomes to bring long-term cost savings. Recognising the uniqueness of patient anatomy and the absence of a one-size-fits-all approach, offering a variety of medical device options allows physicians to select the most suitable tools for individual patient needs, ensuring the delivery of optimal outcomes and enhanced patient satisfaction. While well-intentioned, price reforms for medical devices in other nations have unintentionally hindered access to innovative products and limited patient choices, yielding limited success in reducing healthcare expenses (Case Study 9, Case Study 10). This approach has led to slower or fewer launches of cutting-edge medical technologies, potentially resulting in escalated expenses due to prolonged hospital stays, intensive treatments, and suboptimal chronic condition management.[55,56,57]

Patients express concern over potential limitations in access to medical devices with MTSL implementation

Patient representatives remain concerned about the complex and time-consuming process for accessing financial assistance schemes outside the MedTech devices listed in MTSL. They seek clarity in obtaining financial solutions before treatment and express hope that ongoing reforms will not lead to the removal of necessary MedTech devices from the MTSL. Despite government assurances, patient access to medical devices under the MTSL remains uncertain.

CASE STUDY 9

Impact of price cap policy in Taiwan

Taiwan: Government retrofitted price cap policy acknowledging feedback from physicians

National Health Insurance Administration (NHIA) embraced constructive feedback and increased consultation and dialogue with physicians and industry after criticism arose on a new policy to cap patients' out-of-pocket expenses on medical devices.[58] In response, NHIA shifted its focus to monitoring device pricing instead of a price cut.[59,60]

At present, Taiwan has implemented a balance-billing system for specific advanced and innovative medical devices to ease the NHIA's financial burden and provide patients with more product choices.[58] A balance billing system allows patients to opt for medical devices outside of the reimbursement list by paying the difference between the total cost of services being charged and the amount the insurance covers.[58] By capping fees, the balanced billing system prevents excessive charges and reduces the financial burden on patients, making healthcare services more accessible and affordable. Simultaneously, it ensures that healthcare providers are compensated fairly for their services, thus promoting the stability of the healthcare industry.

CASE STUDY 10

Impact of a blanket price ceiling in India

India: Price ceiling led to reduced access to innovation

In 2016, India's National List of Essential Medicines (NLEM) set fixed price ceilings to promote affordable angioplasties.[61] This price reform which aimed to make medical procedures more affordable for patients, led to leading stent manufacturers applying for the removal of their premium stents from the market.[61,62] Despite an 85% reduction in cardiac stent prices, the cost of single-vessel angioplasty for patients only decreased by 8% because the cost of the medical device only formed a small portion of the entire medical procedure.[63] This marginal reduction in price adversely affected innovation access, indicating the manufacturers' urge to exit the market and reluctance to introduce more advanced stents.[61,62,64,65]

CONSIDERATION 2

Maintaining health equity

Patients in need of generic implants will benefit from government-subsidised MTSL-listed products. However, for specialised implants not listed on the MTSL, patients may need to rely on private insurance or self-funding, potentially creating a divide in access to innovative treatments.[18] This could lead to contrasting options: those with the means may opt for non-MTSL implants that are more clinically suitable for better health outcomes and quality of life at a higher price, while those without financial flexibility will face limited choices. This disparity underscores the importance of revisiting the price reform to ensure equitable access for all patients.

Surgeon's responses to questions around the impact of MTSL[66]

Surgeons intend to restrict implant choices to MTSL-listed options due to patient subsidies. Some may reserve non-MTSL implants for private patients or in medical necessity cases. This could create fewer alternatives for public sector patients than their private counterparts.

CONSIDERATION 3

Maintaining investment and access to innovation

Maintaining investment and access to innovation is important to achieve improved health outcomes and long-term sustainability of the health system. This can be enabled through the collaborative implementation of price reforms that help mitigate the decrease in R&D investment and safeguard innovation and research.[67-69] For example, China's price reduction ceiling for high-value medical devices led to reduced foreign investment (Case Study 11), impairing MedTech market competitiveness, hindering industry progress and the country's positioning as an innovation and experimental hub.

CASE STUDY 11

Impact of price ceiling in China

China: Price ceiling led to limited product choice and reduced health system resilience

The limited consultation during price ceiling implementation caused increased costs for healthcare providers and prompted the withdrawal of MedTech products, such as coronary stents, from smaller provinces where prices did not cover expenses.[56,57] This curtailed patient options, hindered access to innovation and disrupted local market dynamics.[58] Consequently, some foreign MNCs withdrew from smaller volume provinces in China, impacting healthcare system resilience.[56] Clinicians also noted declining product quality and availability, forcing more training on replacement products and adding costs for hospitals and providers.[56]

The MedTech industry acknowledges the Singapore government's adaptability and its potential to mitigate MTSL's adverse impacts. The industry seeks an equitable MTSL implementation for the well-being of all residents. By fostering a collaborative partnership and open policy dialogue, the industry can support the government to ensure a successful MTSL implementation, safeguarding patient choice and healthcare access. Further transparency on metrics and assessment guidelines within the ACE methodology will enhance industry contributions to shared financial sustainability goals.

Industry's desire to maximise the success of MTSL implementation

In a recent survey of MedTech industry members, 82% of respondents had engaged in value-based pricing discussions globally while only 36% reported engaging in these discussions in Singapore.[29] The industry is eager to partner with the government to provide evidence for MedTech device value, aligning with long-term healthcare goals.[29]

Given the uniqueness of each device group, common metrics used for pharmaceutical products cannot be directly applied to MedTech devices. Compiling the relevant evidence and metrics necessary to determine each product's value requires time and a platform for discussion. Setting a clear definition of value-based pricing and providing sufficient notice to prepare the evaluation documents to support these discussions, would help the industry better manage this process.

Beyond these needs, providing greater guidance around the sequencing of product listing and policy methodology will also help facilitate a more constructive and effective collaboration with the government.

Drawing on cross-market insights to highlight the benefits of collaborative policy implementation

06

The MedTech industry aims to actively contribute to the government's cost-saving objectives, notably through collaborative MTSL implementation. The industry offers assistance in addressing potential unintended consequences of price reforms, including overcoming limited partnerships that could hinder policy success.

In successful instances of pricing reform, collaboration between governments and industries led to cost savings without compromising patient and physician autonomy or hindering innovation. Strategies such as heightened transparency, phased implementation (as seen in Australia), and a focus on innovation (as observed in South Korea and Japan) have yielded positive outcomes. Countries such as the United Kingdom (UK), with National Institute for Health and Care Excellence (NICE) well-established processes, showcase effective approaches. Additionally, impactful initiatives such as sandboxes underscore the value of collaboration.

Achieving healthcare objectives through collaborative implementation: A case study from Australia

Australia provides a compelling model of transparent and collaborative implementation. Their approach integrates cost-effectiveness, budget impact, and pricing to align with healthcare objectives.[70] Notably, Australia's Department of Health successfully collaborated with the Medical Technology Association of Australia (MTAA) to revamp the Prescribed List (PL) in 2021 to minimise the public-private price gap. This initiative clarified inclusions, restructured items, and streamlined new device listings, reducing costs in the private health sector while facilitating access to innovative medical technologies. Despite challenges such as coverage uncertainties and price adjustments affecting MedTech firms, the government actively engaged MTAA in methodological discussions and sought input through consultation papers.[71] This robust consultation process yielded substantial benefits, including projected savings of over S$848 million in four years through MTAA's proposed public price referencing system, enhancing insurer efficiency.[72] The proposed public price referencing system will be implemented in a phased manner where prices will be reduced sequentially, with 40% of the public-private price gap in 2022, 20% in 2023 and final 20% in 2024.[71] Notably, an exception was made for CIEDs, deferring benefit reductions by one year to acknowledge the device management services post-implantation.[73]

Ensuring robustness in implementation: NICE initiatives in MedTech evaluation

England's NICE demonstrates a resolute commitment to collaboration, transparency, and innovation. Through inclusive consultations involving diverse stakeholders, including manufacturers, NICE develops Health Technology Assessment (HTA) processes and guidelines. Decisions are guided by an independent advisory committee, fostering transparency, and utilising explicit guidelines with well-defined evidence prerequisites.[74] NICE's adoption of an early value assessment approach allows swift utilisation of innovative medical technologies, endorsing their significance in addressing national healthcare challenges.[75]

Innovative approaches to value-based pricing in Asian healthcare systems: Case studies from South Korea and Japan

South Korea's value-based pricing strategy employs tiered reimbursement, allowing premium pricing for innovative MedTech via multi-criteria decision analysis. It stems from collaborative efforts between government, device makers, healthcare, and academia, enriching value-based pricing by embracing technological innovation. The outcome is transparent and consistent criteria, ensuring equitable evaluation. South Korean manufacturers present clinical or technological data for suitable premium reimbursement, aligned with benefits.[76] Their new Health Technology Assessment (nHTA) program champions clear communication, fostering transparency via official letters, and nurturing openness during assessment. Likewise, Japan's MedTech commitment shines through the Sakigake designation, expediting innovative product launches with an innovation premium. This system grants diverse price premiums linked to innovation levels, boosting efficacy, safety, and treatment advancement.

In various markets, an observational model such as a sandbox, which creates a testing environment for innovative technologies, has gained traction for incubating healthcare technologies and spurring advancements.[77] Within the sandbox, collaboration sets excellence benchmarks and drives innovative, risk-mitigated solutions.[78] This fosters experimentation and fuels transformative policy changes.[78]

Fostering an optimal environment for innovation via observational models: Insights from the CQC sandbox in the UK and Singapore's LEAP initiative

A standout sandbox initiative is the UK's Care Quality Commission (CQC).[78] The CQC's sandbox brought together providers, innovators, and the CQC to test new services or products in situations with uncertain regulations.[79,80] The goal was to pinpoint areas for new, supportive regulations that enhance essential innovation and its real-world use.[78] This approach fostered robust stakeholder relationships, aiding in defining regulatory boundaries alongside other regulators.

In Singapore, regulatory observational models, such as Licensing Experimentation and Adaptation Program (LEAP) sandbox by MOH, have effectively partnered with industries to assess innovative services swiftly.[81] Notably, a regulatory sandbox was initiated in 2018 for telemedicine and mobile medicine ahead of the 2023 licensing. Demonstrating success, these sandboxes achieved positive outcomes by 2021, prompting MOH to transition providers into the licensing model. This approach ensures innovation support while upholding patient safety and care standards.

In the local context, the MedTech industry has consistently demonstrated its dedication to fostering innovation and enhancing transparency. Leveraging past successes in price reform, the MedTech sector stands ready to provide invaluable insights and strategic approaches tailored to Singapore's unique circumstances. These insights will pave the way for the effective implementation of the MTSL, facilitating the achievement of the industry and the government's shared cost-sustainability objectives.

The MedTech industry commends ACE for its active engagement of patients, caregivers, and the public through the Consumer and Engagement Education (CEE) team and MedTech methods guide. By strengthening collaboration with government and industry stakeholders, Agency for Care Effectiveness (ACE) has the potential to become a transformative catalyst for change.

07 Key considerations for effective implementation of the MTSL

To achieve all stakeholders' shared objectives, the MedTech industry is keen to collaborate with the government in implementing the MTSL.

The industry is committed to supporting the government's healthcare goals and proposing measures that mutually benefit both parties. These suggestions aim to enhance the value of government-industry engagements.

Given the range of medical devices and technologies and a multitude of stakeholders, industry associations such as APACMed and SMF-MTIG could facilitate productive dialogues between the government and a single industry "voice". Furthermore, the industry is willing to partner with healthcare institutions to jointly generate robust evidence showcasing cost savings from specific products which can be made available ahead of the next MTSL review.

Considering this, the MedTech industry presents two overarching proposals to government stakeholders:

Promote open dialogue and further transparency on the MedTech evaluation process

Identify opportunities for collaboration and support the effective implementation of MTSL

Promote open dialogue and further transparency on the MedTech evaluation process

1. Consolidate industry voice and enhance channels of communication

a. The industry proposes that industry associations such as APACMed and SMF-MTIG act as a liaison between government agencies and industry members and create regular channels of communication. This can support the government agencies to:
   ii. Streamline communication by reducing efforts and resources required to engage with all industry stakeholders individually.
   iii. Conduct bi-annual consultations for a productive exchange of feedback and policy perspectives.

2. Increase transparency in the MedTech evaluation process and provide further advance notice for robust evidence submission

a. Firstly, the industry requests further transparency in the product and subsidy evaluation criteria, evaluation sequence and timelines for ACE and ALPS to help industry members prepare robust evidence to support government agencies' decision-making.

b. Secondly, the industry requests further advanced notice of 3 to 6 months to prepare more robust evidence for MedTech evaluation than can be provided in the current 8-week submission window.[29] This will enable decisions to be taken based on more robust evidence, leading to more optimal clinical and health economic outcomes.[29]

c. Thirdly, the industry requests further transparency in the selection and evaluation of surgical procedure codes on the Table of Surgical Procedures (TOSP) which can be claimed by MediSave / MediShield Life and if there will be any future overlap in the evaluation of TOSP and MTSL. This allows industry to submit relevant evidence as required.

3. Align on metrics for evaluating pricing policy reforms

a. Firstly, the industry requests government agencies to provide further transparency on goals and metrics used to evaluate the impact of pricing reforms. This will help foster a shared vision among stakeholders and support the government to achieve its healthcare goals of improving patient outcomes and ensuring financing sustainability.

b. Secondly, the industry requests the opportunity for future dialogue to refine goals and metrics that assess the impact of health policy reforms to ensure patient care and healthcare financing goals are met while still placing a value on innovation.

Identify opportunities for collaboration and support the effective implementation of MTSL

4. Design an observational model to drive evidence-based decision-making for an iterative implementation of the MTSL

a. The industry proposes a multi-year observational model facilitated by a consortium between the government agencies and industry to collect real-world data by leveraging existing registries such as the ASIAN Heart Failure (HF) registry,[82] and assessing patient outcomes, cost-effectiveness and optimising healthcare system efficiency.

b. The observational model should be implemented by a phased approach per product category to incorporate learnings from each iteration of the product category rollout.

5. Implement a phased price adjustment approach to support a transition plan

a. The industry proposes the rollout of the MTSL via a phased approach to price adjustment for different product categories based on the degree of product innovation. Product prices can be reduced to a target end price in stages, year-on-year over a fixed period. This allows all stakeholders to continuously assess the impact of the policy, minimise supply chain disruption, make decisions informed by real-world experience and refine future iterations of the policy by selecting relevant products and prices to optimise outcomes.

6. Provide clarity on the applicability of MTSL to public and private insurance schemes

a. The industry requests more clarity and comprehensive guidance on the implications of MTSL on insurance schemes such as MediShield Life and Integrated Shield Plans which can impact patient and physician choices.

b. The industry requests a differentiated approach for both privately and publicly insured patients to select optimal technologies for the best possible treatment outcomes and grant physicians access to a full range of MedTech options.

7. Consider premium pricing that recognises high-innovation products

a. The industry requests the government to explore a premium pricing mechanism for innovation, which has demonstrated favourable results within analogous APAC markets. This offers benefits to all stakeholders to support MedTech innovation while maintaining long-term cost-efficiency.

b. This can be conducted by:

Option 1: Adopting a balance billing approach similar to Taiwan's model, where patients have the autonomy to cover additional costs for the use of innovative treatments that are not subsidised by the government, ensuring a dynamic yet sustainable MedTech landscape.

Option 2: Adopting a tiered pricing framework, mirroring Japan and South Korea's systems, which confers varying pricing premiums based on innovation levels.

08 Conclusion

Through a collaborative approach, the MedTech industry and the government can build upon Singapore's existing strengths and achieve even greater heights in healthcare innovation, affordability, and accessibility.

Singapore is proud of a leading healthcare system with a strong infrastructure that serves as a hub for innovation, research, and development. This environment ensures that patients have access to cutting-edge and innovative medical products and services. Moreover, Singapore's clinicians and surgeons remain at the leading edge of clinical practice in the region and beyond, continuously staying abreast of the latest advancements and techniques to deliver the highest quality care to their patients.

The MedTech industry has played a pivotal role in advancing healthcare, contributing significantly to the nation's progress and well-being. As the MedTech industry looks to the future, they recognise the importance of collaboration with the government to achieve shared goals of improving healthcare outcomes and achieving cost-sustainability. However, it is also crucial to highlight the importance of looking beyond the cost of MedTech products in isolation and consider the overall impact they have on the healthcare ecosystem. By working together, industry and the government can harness their respective strengths and expertise to drive positive change to create an equitable, sustainable healthcare landscape for Singapore.

To foster this spirit of collaboration, the MedTech industry seeks opportunities for consultation and partnership with the government. By facilitating open dialogue and active engagement, the industry can leverage its combined knowledge and resources to address challenges and embrace opportunities in the evolving healthcare landscape. Strengthening partnerships and communication channels will enable us to develop innovative solutions that meet the needs of patients, healthcare providers, and the wider community.

Through a collaborative approach, the MedTech industry and the government can build upon Singapore's existing strengths and achieve even greater heights in healthcare innovation, affordability, and accessibility. Together, the industry can create a healthcare ecosystem that benefits all stakeholders and sets an example for the rest of the world.

09 Appendix

Methodology

To establish a solid foundation for the findings, this white paper employed a comprehensive secondary research approach, which was further validated and enhanced through primary interviews and surveys involving the following key stakeholders:

- Advisors in healthcare policy
- Advisors in economic policy
- Representatives from surgeon associations
- Representatives from patient associations
- Representatives from the MedTech industry

Secondary research was instrumental in obtaining insights into the current landscape of the MedTech industry in Singapore. It assessed the track record of the MedTech industry in supporting the government to achieve healthcare and broader national objectives. This phase involved collecting data and analysing trends from a variety of sources, including online publications of government agencies, market reports, newspaper articles and relevant literature from various industry sources.

Targeted primary interviews were conducted with healthcare policy advisors, economic policy advisors, surgeon association representatives, patient association representatives, and MedTech industry representatives. In addition, targeted surveys were carried out among surgeons (N=4) and MedTech industry representatives (N=11).

These interviews and surveys were instrumental in gathering valuable insights, which have been collectively incorporated throughout this white paper to present a comprehensive view. Specifically, the whitepaper sought to uncover the impact of value-added services provided by the MedTech industry and gain an understanding of the government's priorities while exploring effective avenues for collaboration between the industry and the government.

Overall, this methodology ensured a collaborative and inclusive approach to provide a well-rounded assessment of the importance of the MedTech industry and its role in securing patient access to innovative technology.

Throughout the paper, the following currency conversions were adopted:

- S$ 1= US$ 0.74
- S$ 1= AU$ 1.14

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APACMed
The Asia Pacific Medical Technology Association (APACMed) represents manufacturers and suppliers of medical equipment, devices and in vitro diagnostics, industry associations, and other key stakeholders associated with the medical technology industry in the Asia Pacific region. APACMed's mission is to improve the standards of care for patients through innovative collaborations among stakeholders to jointly shape the future of healthcare in Asia-Pacific. In 2020, APACMed established a Digital Health Committee to support its members in addressing regional challenges in digital health. For more information, visit: www.apacmed.org

Singapore Manufacturing Federation (SMF)
Established since 1932, the SMF represents the interest of the manufacturing community in Singapore, driving its competitiveness and sustainable growth through serving industry- specific needs. Supported by 10 industry groups and its Associated Services, the SMF enhances the competitiveness of the industry by encouraging capacity development and capability building, innovation and productivity. The SMF provides opportunities for companies to collaborate, network, and to grow and expand both locally and internationally. Current membership stands at about 5,000 members comprising SMEs, MNCs and Affiliate members. For more information, please visit www.smfederation.org.sg

Medical Technology Industry Group (MTIG)
The Medical Technology Industry Group (MTIG) is represented by both international (MNCs) and local member (SMEs) companies in Singapore. The key objective is to provide a unified voice to champion the interests and address concerns of the local Medical Technology Industry members to drive dialogue and seek collaboration with government agencies to fulfill its shared purpose of serving the patients in Singapore.

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