



2018  
ASIA  
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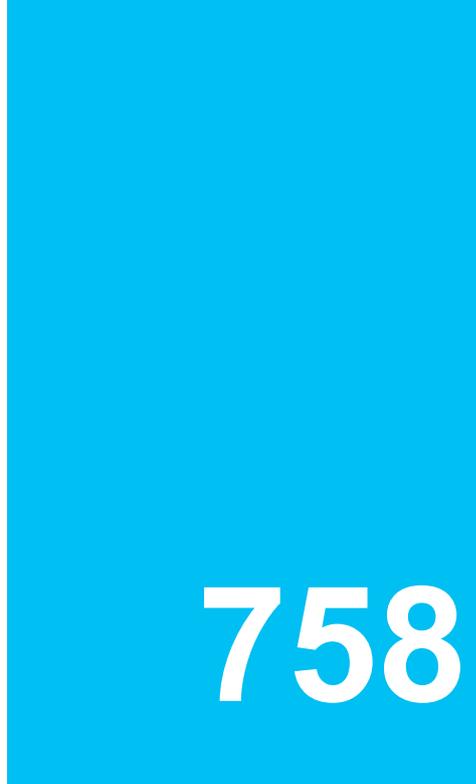
# MEDTECH FORUM

TECHNOLOGY IN HEALTHCARE:  
EMPOWERING PATIENTS, DRIVING OUTCOMES

Technology in Healthcare  
**Empowering Patients;  
Driving Outcomes**

# Key Statistics

The forum in numbers



Attendees



84  
Speakers  
& Moderators

53

Sponsors  
& Exhibitors

38  
sessions

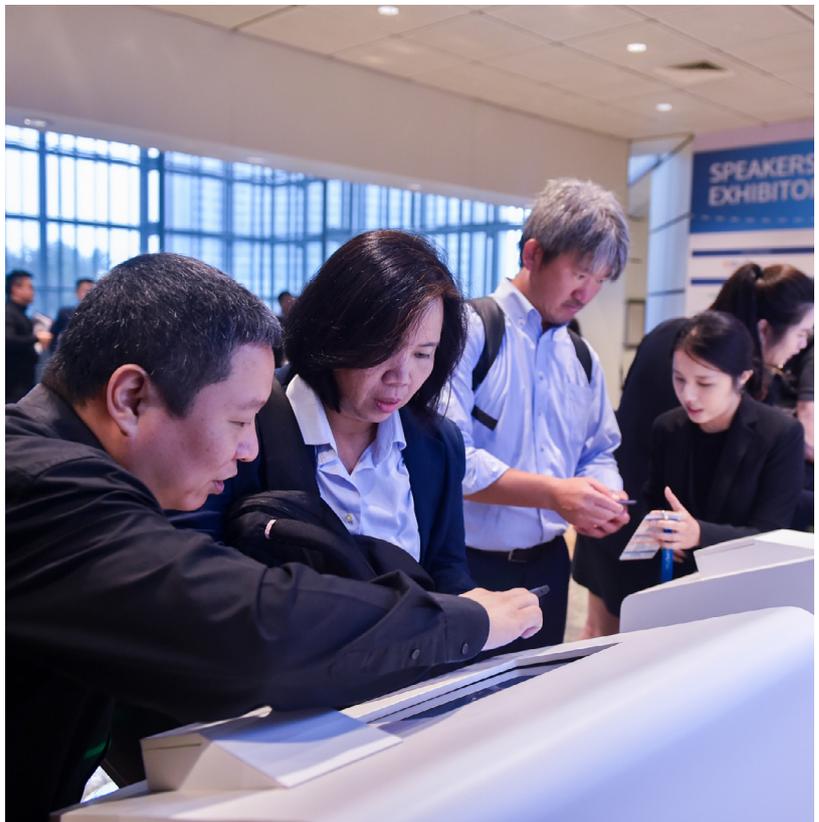


Delegates from  
25  
countries



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## Dear friends and colleagues,

As healthcare systems across Asia continue to mature, medtech leaders are gaining confidence that they can address the region's enduring healthcare challenges. But with competitive intensity and geopolitical uncertainty at an all-time high, the need for shared action is greater than ever.

On October 9-11, healthcare stakeholders from around the world convened in Singapore for the fourth annual Asia Pacific MedTech Forum to discuss collective solutions to common challenges. Our biggest and most impactful event yet, we welcomed over 750 delegates from 25 countries, including global and regional healthcare industry leaders along with healthcare providers, government representatives, clinicians, startups, and SMEs.

The theme of this year's Forum was Technology in Healthcare: Empowering Patients; Driving Outcomes, and much of the conversation focused on how innovative technologies can benefit patients across Asia. Our 84 speakers explored a variety of topics, including the amazing advances being made in precision medicine, artificial intelligence, and other technologies that are driving digital transformation of healthcare systems everywhere. They also discussed solutions to longstanding concerns around market access, regulatory harmonisation, workforce development, and business management.

The event closed another busy year for APACMed, the first and only association dedicated to Asia's medtech industry. We now have over 120 members, including major multinationals and many of the

region's most exciting startups and SMEs, as well as service providers, investors, and industry associations from across Asia. We also have over 200 industry leaders who are actively working across our five committees in legal ethics, regulatory affairs, government policy, communications and medical affairs.

Many thanks again to our members, sponsors and partners who make this work possible, and a special thanks to our outgoing Chairman, Vladimir Makatsaria of Johnson & Johnson. From the early days of APACMed, his leadership and commitment were essential to our success in convening stakeholders from across Asia's healthcare ecosystem and driving improved standards of care across the region. We wish him the best with the next chapter in his career.

Looking forward, we aim to build on this year's accomplishments with your support. This includes continuing our regular schedule of programming, community building, and committee work, as well as cultivating new partnerships and deepening our engagement with Asia's flourishing community of startups and SMEs. As this report will show, these emerging players will undoubtedly play a growing role in driving healthcare progress across Asia and beyond.



**Fredrik Nyberg**

Chief Executive Officer  
Asia Pacific Medical Technology Association  
(APACMed)



# Asia's Medtech Boom

**Business sentiment in Asia's medtech industry remains strong, but stakeholders must collaborate to address challenges looming on the horizon.**

Following years of steady growth in Asia's medtech markets, an optimistic mood prevailed at the 2018 Asia Pacific MedTech Forum in Singapore. With healthcare systems across the region maturing rapidly and local stakeholders showing improved capacity for innovation, medtech leaders from around the world recognised its growing importance for global health.

***"APAC is absolutely critical to the future of our industry,"*** said Kevin Lobo, CEO and Chairman of Stryker, in the opening keynote. ***"It's the fastest-changing medtech market in the world. Global companies cannot win without growth and progress in APAC."***

This sentiment was reflected in the annual Business Sentiment Survey, a poll by McKinsey & Company of 155 medtech leaders across 27 companies. Compared to 2016, the majority of respondents expected greater growth in 2018 for most of the region, including China, Southeast Asia, Korea, Japan, and Australia. India was the only country where sentiment declined in that timeframe, but medtech leaders still expect double-digit annual growth there in the next five years.

Lobo observed that Asia is not only a growth engine for the medtech industry, but also an emerging hotspot of digital innovation. He pointed to WeChat, a Chinese super-app with unparalleled scale and reach into the lives of its users, as an example of how digital innovation in Asia holds potential to transform healthcare. He predicted that Asia's medical technology ecosystems would continue to flourish but urged greater collaboration to improve the region's regulatory and reimbursement landscape.



**“ Digitisation is going to change the world of healthcare, and this part of the world embraces digital like no other. ”**

**Kevin Lobo**  
Chairman and CEO, Stryker

Other medtech leaders agreed. **“Asia is the north star of digital, social media, and online commerce,”** said Ashley McEvoy, Executive Vice President and Worldwide Chairman for Medical Devices at Johnson & Johnson, suggesting that digital channels provide new opportunities for serving patients, managing customer relationships, and providing value to stakeholders across Asia’s healthcare ecosystem. This can help overcome the limitations in funding, workforce shortages, and infrastructure gaps that persist across the region, and may yield new products and business models that have worldwide impact.



As in previous years, China remains a key market for delegates, but also presents ongoing challenges for access, compliance, and reimbursement. In a breakout session on market access in China, local experts reflected on positive changes that could improve business conditions, including the restructuring of the CFDA (now the NMPA), better management of distribution channels, a greater willingness to accept foreign clinical data, fast-tracking of approvals for innovative medical devices, and general efforts to reduce language and cultural barriers to international business.

“Chinese regulators are making great progress,” said Dr Zhang Mingdong, Chief Medical Officer and Vice President of Medical and Regulatory Affairs at Boston Scientific Greater China. “But this is still one of the most complicated systems in the world, and we need to work together to shift traditional thinking in China.”

Amid growing trade tensions between the United States and China, many also worried about political risk and the threat of protectionism. Lobo said that the trade war has not yet hit the medtech industry as hard as other sectors, but it nonetheless creates a climate of uncertainty that could discourage investment and reduce profit margins for some companies. “In these uncertain times, it is more important than ever that we work collaboratively,” said Fredrik Nyberg, CEO of APACMed. “Continuing to strive to realise our shared objectives of ensuring greater access to quality care for patients across Asia.”



# Hospitals of the Future

**Healthcare providers are working with Asia's medtech industry to co-create innovative delivery models and technologies.**

As ageing populations, non-communicable diseases, and other factors put pressure on healthcare systems across Asia, many providers are struggling to keep up with patient demand. This is particularly true in emerging markets, where overcrowding at urban hospitals and workforce gaps is a widespread problem, but providers in some mature markets face similar issues. At the MedTech Forum, representatives of leading provider networks described efforts to ease the burden.

Some see cutting-edge information systems as an important part of the solution. "Hospitals have the difficult task of simultaneously managing the flow of patients, materials, and information," said Chew Kwee Tiang, Chief Executive Officer of Khoo Teck Puat Hospital & Yishun Health in Singapore, which now uses automated guided vehicles to manage material flows. She believes that efforts are needed to improve interoperability between information systems and connected medical devices so that data can flow more freely.

Some providers are focused on expanding access and reducing costs by shifting care from the hospital to the community and the home. Such practices are in line with trends emerging in the United States, where national pharmacy chains like CVS are working to bring primary care to a retail setting and up-and-coming providers like Forward in San Francisco are engaging patients through connected apps, noted Glenn Snyder, Principal in Lifesciences Strategy at Deloitte Consulting. Meanwhile, patients appear increasingly willing to engage with digital health tools and take some clinical tasks, such as blood specimen collection, into their own hands.

Many hospital managers highlighted the importance of working with industry to develop and deploy new approaches to care. “Medtech companies have valuable experience across multiple hospital settings that can really help us,” observed Caroline Riady, Managing Director of Siloam Hospitals, a leading provider group in Indonesia. Riady shared that Siloam is currently implementing technologies to support tele-radiology and pharmacy management but admitted that their path to digitisation is still in its early stages.

The needs of providers in emerging markets are particularly acute. Dr Natasha Reyes, Interim Executive Director of Médecins Sans Frontières, described serious gaps in healthcare services for neglected populations, including the refugees, disaster victims, and other vulnerable peoples she

**“ We need medtech vendors that are not just selling us a solution, but who are willing to work together to develop new approaches to caring for our patients. ”**

**Caroline Riady**  
Managing Director, Siloam Hospitals



serves. Hospital managers from India, Indonesia, and other emerging markets called for greater innovation in managing waste, monitoring supply chains, and other dimensions of the product life cycle. Many agreed that delivery of several medical services must shift from hospitals to community and homecare settings.

Others saw opportunity for medtech firms to collaborate on solutions to the gaps in the region’s health workforce. “The industry talks about upskilling people, but our challenge is that we don’t have enough people to skill,” said Gautam Khanna, Chief Executive Officer of P.D. Hinduja Hospital & MRC in Mumbai, India. “Many companies only train the people working on their equipment, but that’s not enough.” Multi-stakeholder partnerships will be crucial, including those that include governments and medical schools with a direct mandate to boost the size and quality of the health workforce.

Particularly in the region’s mature markets, some providers are aggressively pursuing digital transformation. One example is the public health system in New South Wales (NSW), Australia, which now uses digital technologies for patient engagement, remote monitoring of patients, pharmacy management, workforce development, operational analytics, and many other functions. It is also developing new methods to capture patient-recorded experience and outcome measures, which are critical for assessing the quality and value of care.

**“Helping clinicians adapt to these changes is one of our biggest challenges,”** said Zoran Bolevich, CEO and CIO of eHealth NSW, the organisation responsible for the digital transformation the NSW public health system, one of the largest vertically-integrated healthcare systems in the world. **“We need to work closely with clinicians to make sure they are comfortable in a digital environment.”**

# Start-up Disruption

**New innovation programmes are building bridges between leading medtech companies and Asia's flourishing start-up community.**

Asia's healthcare innovation ecosystems matured considerably in recent years, creating new opportunities for medtech multinationals to incubate, acquire, or partner with disruptive startups and promising entrepreneurs. But while most multinationals and many government agencies across Asia are ramping up efforts to ride this wave of innovation, some are still seeking the right formula for engagement.

Most recognise the pressing need to fill gaps in their innovation pipelines, particularly with respect to products that meet the needs of value-oriented market segments. Roughly 90% of the industry leaders in the Business Sentiment Survey predicted that "market-appropriate innovation" will be an important driver of growth in the next five years, but only 30% believe they are competitive at targeting new patient segments. And while most understand that healthcare is undergoing rapid digital transformation, only 18% think they are optimally leveraging digital channels to build their businesses.



***"The partnership opportunities between entrepreneurs and the big corporates are clear,"*** said James Lim, President of Greater Asia Becton Dickinson. ***"The big firms might be better at sizing the market and executing an expansion strategy, but the entrepreneurs are often the ones with the creativity to find unmet needs."***

MedTech Innovator, a non-profit global competition and accelerator for medical device and digital health startups, is one organisation that is helping multinationals to look beyond their walls and find those entrepreneurs. Founded in 2013, the organisation unveiled its plans at the Forum to launch an Asian chapter in collaboration with APACMed, which will host the grand finals of the MedTech Innovator Asia competition at the next MedTech Forum in October 2019. Up to US\$300,000 in non-dilutive cash prizes will be awarded to the shortlisted finalists of the 2019 cohort, bringing attention to the region's most promising medtech startups and facilitating impactful connections between entrepreneurs and the industry.



**“Innovation in medtech is fundamentally different from pharma or biotech — in medtech we rely on creative clinicians and passionate entrepreneurs; not large teams in white lab coats, so cultivating those entrepreneurs is key.”**

**Fredrik Nyberg**  
Chief Executive Officer, APACMed



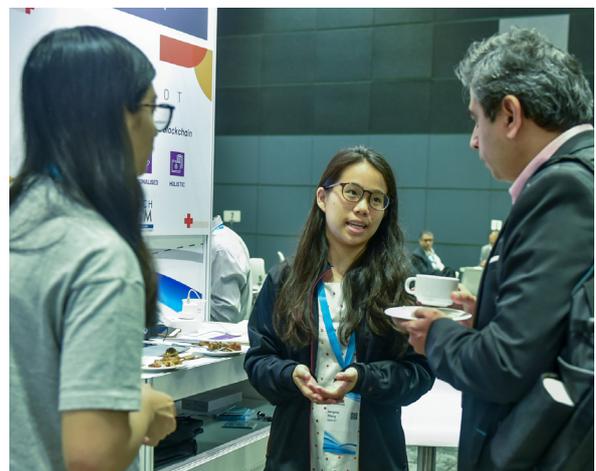
SGInnovate, an APACMed partner and “venture catalyst” that supports high-tech startups built on locally-grown IP in Singapore, is another organisation working to cultivate medtech entrepreneurs in the region. While not limited exclusively to healthcare, the firm has multiple investments in medtech and health AI, according to CEO Steven Leonard.

Such programmes can help entrepreneurs to tap into the expertise and experience of seasoned executives at leading multinationals.

**“The biggest challenge of working with startups is getting them to focus on the things that matter,”** said Susan Morano, Vice President Business Development, Johnson & Johnson Medical Devices.

**“Many startups tend to get preoccupied with big wins, but sometimes it’s the small advances that provide the most value.”**

Corporate executives, in turn, can learn a lot from startups. **“Sometimes we mentor entrepreneurs, but other times we are mentored by them,”** said Shashwat Bennur, Vice President of Marketing at Boston Scientific Asia Pacific. By remaining open to two-way conversation, both multinationals and startups can work together to grow Asia’s medtech innovation ecosystem and generate value for patients across the region.



# Data Demystified

**Advanced analytics and AI technologies promise to change standards of care in Asia.**

Analytics and artificial intelligence (AI) tools have been around for decades, but the recent explosion in computing capacity and big data has brought many of them out of the lab and into the marketplace. In healthcare, these solutions include new decision support tools that can help clinicians make more informed and accurate decisions. They also include software and robotics that promise to automate a growing array of healthcare functions, from surgery to drug dispensation.

“After many ups and downs over the years, AI is booming again,” said Dr Cathy Fang, Vice President of Yitu Healthcare, a Chinese AI company that is developing tools to automate bone age evaluations and lung cancer screening. While known primarily for its work in facial recognition, Fang says the company already works with over 100 major hospitals in China. Like many of the other health AI companies at the Forum, they aim to improve the speed and quality of medical decision-making, a goal that can improve patient outcomes and reduce costs.

One of the most established and diversified players in the field is IBM Watson Health, which offers AI-driven services in oncology, genomics, clinical trials matching, and drug discovery. The company also recently launched a diabetes assistance app in collaboration with Medtronic and are working on tools to automate reading of medical images for mammography and dermatology, according to Anette Hicks, Senior Health Advisor at Watson Health, IBM.

The MedTech Forum also featured several startups developing innovative AI tools, including NDR Medical Technology, the world’s first robotic system using AI and image processing for automated needle targeting. The company aims to conduct

**“ We see a future where humans and technology work in partnership and leverage each other’s strengths. Humans are best at morals, imagination, and complex dilemmas; machines are best at locating knowledge and pattern recognition. ”**

**Anette Hicks**  
Senior Health Advisor,  
Watson Health, IBM



more accurate biopsies or ablations while avoiding accidental perforation of adjacent vessels. As many other companies work to make medical robots smarter and more agile, they will likely discover methods for improving both clinical and economic outcomes across a growing array of disease categories.

Bot M.D., another health AI company that presented at the Forum, uses AI to assist physicians with research on drug interactions, guideline reviews, disease information, and other important topics. Its app uses AI-driven chatbots to help retrieve information from reliable, peer-reviewed sources, and also offers other features, such as transcription for case notes and secure messaging for clinician communications. **“We want to make AI clinical support highly accessible and scalable across emerging markets where clinicians lack access to reliable and easily retrievable information,”** noted Dorothea Koh, Bot M.D.’s CEO and Founder.

Prior to launching Bot M.D., Koh played a role in setting up Singapore-Stanford Biodesign (SSB), an APACMed partner organisation that helps aspiring innovators to develop new medical technologies. Founded in 2010, SSB offers a one-year fellowship programme that hinges on immersive research to identify unmet clinical needs. This needs-driven approach may be especially relevant for AI specialists with ambitions to develop healthcare products but limited prior exposure to the industry.



Some providers are working to build their own AI solutions. The National University Health System (NUHS), for example, is currently developing tools to predict disease progression and readmissions, according to Dr Ngiam Kee Yuan, Group Chief Technology Officer at NUHS. This requires aggregation and annotation of data on health behaviours and outcomes in community-care settings. Even in highly connected countries like Singapore, this data can be fragmented and unclear, creating challenges but also opportunities for data aggregators.

But amid the growing promise of AI and analytics tools, Ngiam also cautioned against building technologies without input from health workers: **“Clinicians are the alpha and omega of every AI project—we need them to define the problem, participate in the product development process, run the trials, and ultimately use the system.”** AI and analytics companies that lose sight of these facts may face resistance in their efforts to grow their businesses and achieve meaningful impact on patient outcomes.

# Precision Medicine's Promise

**Advances in precision medicine are making patient care more effective, but efforts are needed to encourage its adoption in Asia's healthcare systems.**

The forward march of precision medicine, an emerging field that tailors treatments to the unique biological and behavioural attributes of individual patients, was a central theme at this year's MedTech Forum. With ongoing technological innovation and considerable investments in the field, some predict that a golden age in patient care is right around the corner.

***"We have always treated patients in an individualised way, but historically our data was built on population-based studies,"*** said Dr Iain Tan, Senior Consultant GI Medical Oncologist at the National Cancer Centre Singapore. ***"The dream of precision medicine is to understand differences in sub-populations so that we can get the right treatments to the right patients at the right time."***

New medical technologies are making that dream possible. "Liquid biopsy" platforms, for example, use blood samples to conduct non-invasive cancer diagnoses, monitor cancer progression, and match patients with targeted therapies. Improvements in data and analytics technologies are facilitating capture and storage of massive healthcare datasets that promise to unearth powerful epidemiological insights.

On the biopharmaceutical side of the field, however, many of the latest targeted and cell therapies are extremely expensive. High-quality diagnostics are essential for ensuring that we match the right patients with these therapies, observed Simranjit Singh, CEO of Guardant Health AMEA, a liquid biopsy provider focused on Asia. This limits waste and keeps costs down as scientists and policymakers work to make the latest treatments more affordable.



**“ The real benefit of precision medicine will be to enhance disease detection and treatment selection, and ultimately bend the mortality and cost curves in Asia Pacific. ”**

**Simranjit Singh**  
Chief Executive Officer Asia,  
Middle East & Africa (AMEA),  
Guardant Health

Given the high costs and variable outcomes, measuring the value of these treatments can be difficult. **“Many of the newer therapies have large upfront costs but are highly effective and in some cases curative,”** said Dr Mark McClellan, Director and Robert J. Margolis Centre for Health Policy at Duke University. **“How do we build long-term value models into systems that still have a short-term mindset?”**

One way is to do more benchmarking studies across hospitals and clinics in Asia, argued Dr Hsien-Hsien Lei, Vice President and Head of Medical and Scientific Affairs at Medtronic Asia Pacific. Since costs and patient outcomes tend to vary significantly between countries and provider networks, these benchmarking studies can be laborious, but digital transformation and new patient registries may produce more of the data needed for these evaluations, noted Dr Keith Lim Hsiu Chin, Group Chief Value Officer at the National University Health System in Singapore.

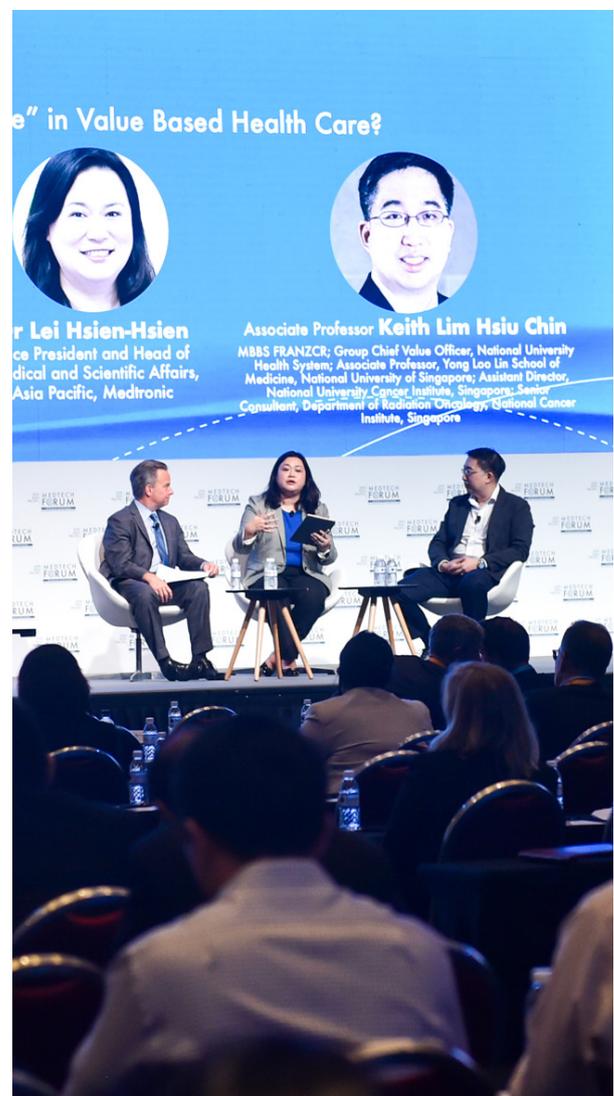
Others highlighted the importance of working with regulators, payers, and other industry stakeholders to understand the value of precision medicine technologies. **“Next-generation sequencing is one of the few technologies progressing faster than Moore’s Law,”** said Justin Lee, CEO at NovogeneAIT, a provider of sequencing services for the clinical and research markets. **“We need to move quickly to educate stakeholders about the potential.”**

Amid these amazing advances, many agreed that preventative medicine still provides the best value. **“Most government spending today is on therapies, but if they want to reduce costs, they need to focus more on diagnostics and prevention,”** said Sanjay Prabhakaran, President of Hologic Asia Pacific. But while some countries in Asia Pacific, such as Singapore and Australia, are already making investments in preventative medicine, others will certainly

need help to develop and implement impactful programmes.

As the first and only association dedicated to Asia’s medtech industry, APACMed remains committed to supporting multi-stakeholder collaborations that make positive change possible. This includes ongoing efforts to support start-ups and multinationals in building Asia’s innovation ecosystem; promoting a culture of ethics and compliance to ensure that the medtech industry operates fairly and with the patient interest in mind; and improving the regulatory and reimbursement landscape to ensure that innovative medical technologies can reach all the patients that need them.

We invite you to join us in these efforts as we work to improve standards of care in this diverse and dynamic region.



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