

Taiwan's Next Healthcare Leap: Turning Biomedical Innovation into Patient Impact

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Speaking during BIO Asia-Taiwan 2026, Shih-Chia Lin of FMPAT outlines how Taiwan can harness its strengths in clinical medicine, biotechnology and digital technology to build a more preventive, connected and patient-centred healthcare ecosystem.



As BIO Asia-Taiwan 2026 brought the region's biotechnology and healthcare ecosystem together in Taipei, the conversation extended beyond scientific breakthroughs to a more pressing question: how can innovation translate into meaningful improvements for patients?

In an exclusive interaction with **BioSpectrum Asia**, **Shih-Chia Lin of the Foundation of Medical Professionals Alliance in Taiwan (FMPAT)** discusses Taiwan's opportunity to strengthen its position in emerging fields such as antibody-drug conjugates, GLP-1 therapies, regenerative medicine, artificial intelligence and precision healthcare. Lin also highlights the need to shift healthcare resources towards prevention and early diagnosis, strengthen digital health governance, and create more flexible pathways that balance innovation, equitable patient access and the long-term sustainability of Taiwan's healthcare system.

Taiwan has built a globally recognised healthcare system alongside a rapidly evolving biotechnology and medical innovation ecosystem. From FMPAT's perspective, what are the most important opportunities and challenges shaping the future of healthcare in Taiwan today?

Taiwan's greatest opportunity lies in transforming its strengths in clinical practice and manufacturing into a strategic position within the world's most critical innovation platforms. The three special forums organized by the Foundation of Medical Professionals Alliance in Taiwan at BIO Asia-Taiwan 2026 illustrate Taiwan's development potential across several areas of medical innovation.

In oncology, antibody–drug conjugates (ADCs) have evolved from a single class of therapeutics into a core technology platform integrating antibodies, linkers, cytotoxic payloads, and manufacturing technologies. Taiwan has already established a solid foundation in antibody engineering, linker and conjugation chemistry, and process development. By leveraging technological integration and specialized division of expertise, Taiwan has the potential to build differentiated niches within the global ADC value chain.

In metabolic medicine, the applications of GLP-1 therapies are expanding beyond diabetes and obesity to cardiovascular disease, liver disease, and even neurodegenerative disorders. This trend is not only driving new drug development, but also creating opportunities for cross-sector collaboration among Taiwan's pharmaceutical, contract development and manufacturing organization (CDMO), and information and communications technology industries. Such collaboration could support the development of integrated care models that combine medicines, digital tools, and health management services.

In dementia care, Taiwan has also been steadily building research and development capabilities in precision diagnosis, early screening, precision treatment tools, and therapeutics. As breakthroughs in new dementia treatments continue to emerge, Taiwan has an opportunity to accelerate the establishment of a comprehensive care system spanning risk identification, early diagnosis, treatment, and follow-up, thereby progressively advancing the goals of early screening, early diagnosis, and early treatment.

The challenges confronting Taiwan's healthcare system cannot be addressed through a single disease-specific intervention or an individual policy measure. Rather, they reflect a broader structural transformation. As Taiwan becomes a super-aged society, the number of people living with dementia is currently estimated at approximately 350,000 and could approach 680,000 by 2041. Annual dementia-related care costs have already reached approximately NT\$345.7 billion.

These figures demonstrate that future policy should not focus solely on treatment and care after disease onset. Resources should also be appropriately shifted upstream toward preventive healthcare, risk management, early screening, and early diagnosis. Such investment can help delay disease progression, reduce the caregiving burden on families, and contain the substantial healthcare and social costs that arise at later stages. Achieving this transformation under conditions of limited resources represents a major structural challenge for Taiwan's healthcare policy.

At the same time, high-cost innovative therapies, including gene therapies and CAR-T cell therapies, represent major advances in medical technology and offer new hope to patients who previously had few or no effective treatment options. However, these therapies also create new challenges for access to care, equity in healthcare, and the financial sustainability of Taiwan's National Health Insurance system. Policymakers must therefore establish more flexible and sustainable mechanisms capable of balancing incentives for innovation, patient access, and the long-term financial stability of the National Health Insurance system.

From the perspective of the Center for Innovative Biomedical Policy Research, our mission is to facilitate effective alignment among regulatory frameworks, National Health Insurance reimbursement, the healthcare workforce, and clinical care systems. By shortening the pathway from research and development and validation to real-world implementation, we aim to ensure that medical innovations genuinely reach patients rather than remaining confined to laboratories or clinical trials.

FMPAT brings together medical professionals and stakeholders across the healthcare ecosystem. How does the Foundation translate the collective expertise of healthcare professionals into meaningful policy dialogue and improvements in patient care?

The Foundation of Medical Professionals Alliance in Taiwan was established in 1992 by members of the medical community. Since its founding, the Foundation has firmly believed that medical professionals should not confine their contributions to clinical practice, but should also actively participate in and promote improvements in healthcare, education, and environmental policy. This conviction continues to shape the way the Foundation works today. At the core of our approach is our role as both a think tank and a collaborative platform, bringing together expertise from the medical, industrial, academic, and government sectors to facilitate cross-disciplinary dialogue and cooperation.

Regenerative medicine provides a clear example of this approach. Over the past decade, the Foundation has organized approximately 15 forums involving government, industry, and academia across different segments of the regenerative medicine value chain. We also assisted the Taiwan Food and Drug Administration under the Ministry of Health and Welfare in drafting the proposed Regenerative Medicinal Products Act. In addition, through approximately 40 advanced training programs on cell therapy, we have trained more than 3,200 clinical and related professionals. We have also organized 20

international conferences on regenerative medicine, continuously introducing international experience, facilitating regulatory dialogue, and strengthening clinical capabilities.

This working model has now been extended to other important fields, including antibody–drug conjugates, GLP-1 therapies, and dementia. At the special forums held during BIO Asia–Taiwan, we deliberately brought together representatives from industry, government, academia, and clinical practice. This allowed scientific and technological possibilities to be assessed within the same discussion against clinical needs, industrial conditions, and policy feasibility. Following each forum, we consolidated the professional opinions and discussion outcomes into policy recommendations for relevant government agencies to consider in their decision-making.

The Foundation is concerned not only with increasing the visibility of new technologies and new sources of hope. More importantly, we focus on the factors that can genuinely improve patient outcomes, such as identifying appropriate patients for treatment at an early stage, establishing robust ethical standards, and ensuring long-term safety monitoring and quality of care. Our objective is not to promote technology merely for the sake of technological advancement.

In essence, the Foundation serves as both a bridge and a translator. We transform the clinical experience and professional judgment accumulated within the medical community into policy language and concrete action, while ensuring that these perspectives reach the institutions and individuals where decisions are actually made.

As artificial intelligence, digital health and precision medicine increasingly enter clinical practice, how prepared is Taiwan's healthcare system for this transformation, and what must be done to ensure innovation strengthens rather than complicates the relationship between healthcare professionals and patients?

Taiwan already possesses a strong foundation and favorable technological conditions for advancing the digital transformation of healthcare. Our key strengths include the comprehensive care system supported by the National Health Insurance program, the extensive longitudinal health data accumulated over many years, and a robust information and communications technology industry. The critical priority for the next stage is not merely to develop more technologies, but to establish the governance frameworks, data standards, and system interoperability required for the responsible use of health data.

In the Foundation's proposed "Digital Health Strategy 2030," the Center for Innovative Biomedical Policy Research identifies four key directions. First, Taiwan should establish a people-centered, resilient, and sustainable digital health ecosystem. Second, it should achieve genuine data interoperability among hospitals, clinics, long-term care institutions, and social welfare organizations. Third, greater attention should be given to the cost-effectiveness of digital health tools and the efficiency of resource allocation. Fourth, digital transformation must promote health equity rather than widen existing disparities in access to care.

We believe that healthcare innovation must begin with the desired outcomes in mind. In other words, it should start with clinical needs and patient outcomes, rather than with the technology itself. Artificial intelligence and digital tools should help physicians and nurses work more efficiently, reduce repetitive administrative burdens, and enable patients to better understand their health conditions and treatment options. They should not add complexity to clinical workflows or create opaque decision-making processes that neither patients nor healthcare professionals can understand.

To achieve this objective, Taiwan must establish appropriate and clearly defined rules governing the use of health data, interoperable information systems, clear mechanisms for clinical responsibility and accountability, and comprehensive education and training. Only when healthcare professionals have the competence and confidence to interpret, evaluate, and explain artificial intelligence tools to patients can digital innovation become genuinely integrated into clinical practice and serve as a means of strengthening the patient–provider relationship and improving the quality of care.

Taiwan is seeking to strengthen its position as an international biotechnology and healthcare innovation hub. What role can medical professionals play in bridging the gap between scientific innovation, clinical validation and real-world adoption?

Healthcare professionals are indispensable in bridging scientific innovation and clinical application because they are directly involved in three critical stages: research and development, validation, and real-world use.

First, at the research and development stage, clinicians work at the frontline of healthcare delivery and therefore have the clearest understanding of patients' genuine unmet needs. They can help research teams identify therapeutically relevant targets with meaningful clinical value, ensuring that research priorities respond to actual healthcare challenges rather than

being driven solely by technological possibilities.

Second, at the validation stage, healthcare professionals are responsible for conducting clinical trials, evaluating efficacy and safety, monitoring risks that may affect the practical use of new technologies, and generating real-world evidence through clinical practice. These activities not only determine whether a therapy can withstand scientific and regulatory scrutiny, but also influence subsequent reimbursement assessments and its adoption into clinical practice.

Finally, at the clinical application stage, healthcare professionals must determine which patients are suitable for particular new medicines or technologies and establish the necessary diagnostic tools, risk-management measures, treatment support systems, and follow-up care. Incorporating their perspectives from the earliest stages of research design, and maintaining collaboration throughout development, validation, and implementation, can therefore help narrow the gap between scientific discoveries and clinical practice.

Guided by this principle, the Foundation has long been committed to workforce development in innovative biomedicine. In regenerative medicine, for example, we have drawn upon Japan's professional certification systems for physicians practicing regenerative medicine and personnel engaged in cell processing. With exclusive authorization from the Japanese Society for Regenerative Medicine, we translated and published the field's first professional textbook in Traditional Chinese. We have also continued to organize educational programs and professional forums to help clinical and related professionals understand emerging technologies, regulatory requirements, and practical applications, thereby strengthening both their capabilities and their willingness to participate in innovative fields.

The same principle applies to antibody–drug conjugates, GLP-1 therapies, dementia care, and other areas of biomedical innovation. For Taiwan to become an international hub for medical innovation, healthcare professionals must be engaged at an early stage of innovation development. They should not be regarded merely as end users once a new technology has been completed. Rather, they should serve as co-designers, continuously feeding clinical insights back into research and development, clinical validation, and policy frameworks, so that innovation genuinely responds to the needs of patients and the healthcare system.

Healthcare systems across Asia are facing common pressures, including ageing populations, workforce constraints and rising costs. Which lessons from Taiwan's healthcare experience could be particularly valuable for other markets in the region, and where could Taiwan itself benefit from greater international collaboration?

From the perspective of a biomedical innovation policy think tank, Asian countries face a common set of challenges, including population ageing, healthcare workforce shortages, and rising medical expenditure. What is truly needed is not a single technology or an isolated policy measure, but a comprehensive transformation in the allocation and governance of healthcare resources. The Foundation has recently continued to advise the government that a healthcare system committed to population health must gradually shift away from a model centered on prolonged medical treatment and long-term care after disease onset, toward health promotion, risk management, early diagnosis, and early treatment, with the aim of delaying disease progression and the onset of disability as much as possible. Such a transition would not only improve patient outcomes, but also reduce the caregiving burden on families and mitigate the substantial healthcare and social costs expected in the future.

Taiwan is also well positioned to integrate its healthcare and information and communications technology industries in response to healthcare workforce shortages. Artificial intelligence, telemedicine, digital health management, and automation tools can support healthcare professionals in risk identification, clinical decision-making, administrative tasks, and patient follow-up, allowing limited human resources to be concentrated on care activities that require professional judgment and interpersonal engagement. However, the introduction of digital tools must not focus solely on efficiency. It must also be supported by robust mechanisms for data governance, system interoperability, clinical accountability, and safety monitoring, ensuring that technology reduces the burden on healthcare professionals and improves patient care rather than creating additional workflows or widening the digital divide.

Another important area of experience concerns how stronger policies and governance can balance industrial innovation with health equity. Emerging technologies, including innovative medicines, cell and gene therapies, and artificial intelligence-enabled medical devices, can address previously unmet medical needs, but may also create high costs and disparities in access. Governments therefore need to establish more flexible regulatory, clinical validation, health technology assessment, and payment frameworks. These systems should encourage research, development, and industrial investment while ensuring that patients of different ages, socioeconomic backgrounds, and geographic locations can benefit equitably. The capacity to balance innovation, financial sustainability, and health equity is an important area in which Asian countries can exchange experience and learn from one another.

Taiwan should also further amplify its existing strengths through deeper international collaboration. With a high-quality healthcare system, strong clinical trial capabilities, and a contract development and manufacturing organization industry with an established foundation and considerable expertise, Taiwan is well suited to participate in international multicenter clinical trials, real-world evidence studies, cross-border product development, and manufacturing and supply chain partnerships. By building longer-term relationships with international pharmaceutical companies, research institutions, healthcare systems, and regulatory authorities, Taiwan can become not merely a market for adopting new technologies, but also an important partner in clinical validation, product development, and manufacturing.

Looking towards the next decade, what is your vision for FMPAT, and what changes would you most like to see in Taiwan's healthcare ecosystem to create a more innovative, sustainable and patient-centred system?

Looking ahead to the next decade, we hope that the Foundation of Medical Professionals Alliance in Taiwan will further establish itself as a leading biomedical innovation policy think tank in Taiwan, while continuing to serve as a cross-sector platform connecting government, industry, academia, clinical healthcare, and patient communities.

Our role is not merely to observe the development of emerging technologies. More importantly, we seek to identify at an early stage the critical innovations that may transform patients' lives, models of healthcare delivery, and the structure of the biomedical industry. We aim to help policymakers understand emerging trends and anticipate their potential impact, so that policies, regulations, payment systems, and workforce development can be prepared in advance. Through policy research, cross-disciplinary forums, professional training, and international exchange, we hope to translate scientific developments into policy issues and help the government assess the potential clinical value, ethical risks, financial implications, and industrial opportunities associated with new technologies.

In transforming the healthcare system, the change we most hope to see is a gradual shift in resource allocation away from prolonged medical treatment and long-term care after disease onset and toward health promotion, risk management, early diagnosis, and early treatment. In the face of population ageing, healthcare policy cannot simply continue investing more resources after diseases have progressed. It must place greater emphasis on delaying disease progression and disability and reducing the long-term care burden borne by patients, families, and society.

In response to healthcare workforce shortages, we also hope that Taiwan will make more strategic use of information and communications technology, artificial intelligence, and digital health tools to improve clinical workflows, reduce repetitive administrative tasks, and enhance access to care for rural communities and older populations. However, digital transformation must not focus solely on the introduction of technology. It must be accompanied by robust mechanisms for health data governance, system interoperability, clinical accountability, safety monitoring, and workforce training. This is essential to ensure that technology genuinely reduces the burden on healthcare professionals and improves the patient care experience.

While encouraging industrial innovation, we also hope that Taiwan will establish more forward-looking and flexible regulatory, health technology assessment, and payment systems. These frameworks should enable innovative technologies to complete validation and enter clinical practice more efficiently, while safeguarding the financial sustainability of the National Health Insurance system and promoting health equity. Innovation should not serve only the small number of people who can afford it. Through appropriate governance, technologies with genuine clinical value should be made equitably accessible to the patients who need them.

The core principle underlying all of this work is to "begin with the end in mind"—with patients' needs and health outcomes as the ultimate objectives of innovation. For us, the true value of innovation is not determined by how advanced a technology may be, but by whether it can solve clinical problems, improve patients' lives, and make the healthcare system more equitable, efficient, and sustainable. The Foundation's vision for the next decade is to continue connecting scientific innovation, clinical needs, and public policy, so that valuable technologies do not remain confined to the research stage, but are translated into meaningful changes that patients can genuinely experience.