Lian-Yu Chen – Director General, National Health Insurance Administration, Taiwan

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Lian-Yu Chen, Director General of Taiwan's National Health Insurance Administration, combines expertise in clinical psychiatry, public health, and governmental leadership. A PhD graduate of Johns Hopkins Bloomberg School of Public Health, she specialised in service utilisation and barriers to care. Dr Chen has driven Taiwan’s digital infrastructure and data governance strategies, positioning its universal healthcare system as a global leader in innovation. Her leadership spans the Cancer Drugs Fund, chronic disease management reform, and pioneering initiatives in patient data accessibility.

Dr Chen, could you provide context regarding your professional background and the mandate you assumed upon leading the National Health Insurance Administration?

I trained initially as a psychiatrist and later pursued doctoral studies at the Johns Hopkins Bloomberg School of Public Health, supported by a scholarship funded by Michael Bloomberg. My doctoral research focused on healthcare service utilisation, examining how comorbidities shape treatment-seeking behaviour and identifying structural barriers to access. This work resulted in 13 peer-reviewed publications and fundamentally informed my approach to healthcare systems analysis.

After completing my PhD in 2014, I returned to Taiwan despite receiving several offers in the US. I joined the National Taiwan University School of Public Health as an Adjunct Assistant Professor and was promoted to Associate Professor last year. Following four years balancing academic responsibilities with clinical practice, I transitioned into public service with the Taipei City Government, where I led programmes in HIV prevention, substance use treatment, and tuberculosis control. This period, which included two years of the COVID-19 pandemic, enabled me to establish close working relationships with the Ministry of Health and Welfare.

When the then Director General of the Department of Mental Health reached the mandatory retirement age, the government sought a psychiatrist with both policy expertise and experience in local administration. I was appointed to that role, later advancing to Deputy Director General and ultimately to Director General of the National Health Insurance Administration. Leading the organisation during its 30th anniversary has been both a privilege and a profound responsibility. Taiwan's National Health Insurance system has been consistently ranked among the world's top systems for several consecutive years, an achievement that reflects sustained excellence and a continuous commitment to innovation.

How does your international experience and fresh perspective inform the National Health Insurance Administration's role in implementing the healthy Taiwan Agenda?

The Healthy Taiwan initiative comprises 18 mission objectives, with the National Health Insurance Administration responsible for four to five core domains. These include improving healthcare workforce conditions, safeguarding National Health Insurance sustainability, strengthening chronic disease management – particularly hypertension, hyperlipidaemia, and hyperglycaemia – and implementing the Cancer Drugs Fund. Although these responsibilities are formally distinct, they are structurally interdependent. Enhancing clinicians' working environments, for example, expands inpatient capacity, which in turn improves emergency department performance and the management of severe illness. This systems-level integration underpins the initiative's design.

Taiwan's National Health Insurance functions as a mandatory single-payer system with 99.99 percent population coverage, the highest rate globally. This universality confers decisive advantages in policy execution. During the COVID-19 pandemic, between 2020 and 2022, Taiwan maintained comprehensive national records of first, second, and third vaccine doses, including specific vaccine types administered to each individual. Such population-level surveillance proved extremely difficult in multi-payer systems. In the United States, for instance, the coexistence of

Medicare, Medicaid, and numerous private insurers complicated comparable data aggregation. Taiwan's unified system enabled precise, data-driven pandemic response.

This digital infrastructure constitutes Taiwan's core strategic asset. The National Health Insurance IC card, introduced in 2004, initially recorded six data categories: visit history, prescriptions, do-not-resuscitate preferences, allergies, organ donation preferences, and basic medical information. In 2013, the launch of the MediCloud system expanded coverage to all prescriptions, diagnostic imaging such as CT and MRI scans, vaccination records, and traditional Chinese medicine utilisation. The latter is particularly significant, as other jurisdictions with widespread traditional medicine use, including Singapore, Malaysia, and China, lack systematic data on potential drug interactions. Taiwan's integrated dataset enables rigorous analysis of these risks.

In 2019, virtual IC cards were introduced, allowing citizens to authenticate digitally via mobile applications and enabling telemedicine consultations with full MediCloud access, without physical cards. In July 2025, we launched MediCloud 2.0, marking the platform's second-generation evolution.

Sustained investment in digital infrastructure and continuous innovation underpin Taiwan's policy-making capacity, including its response to large-scale crises such as pandemics. Equally distinctive is Taiwan's cross-agency data linkage. National Health Insurance data are integrated with datasets from the Centres for Disease Control and the Health Promotion Administration, which manages cancer screening programmes. This linkage creates comprehensive national cancer datasets spanning prevention through treatment – a capability that remains rare internationally.

How does technology and data governance inform health technology assessment reform and reimbursement decisions, particularly given fiscal pressures anticipated over the coming decade?

Currently, Taiwan's health technology assessment mechanisms operate through the Centre for Drug Evaluation, which functions as a government-sponsored task force rather than an established institution. Both the National Health Insurance Administration and the Food and Drug Administration commission evaluation projects from this centre. The FDA seeks assessments determining new drug or technology approval, whilst we evaluate cost-effectiveness, patient benefit, and financial impact – distinct evaluation objectives addressed through common infrastructure.

In 2023, we signed a memorandum of understanding with the UK's National Institute for Health and Care Excellence, marking the genesis of our capacity expansion efforts. We adopted numerous methodological approaches that NICE employs when evaluating medication or treatment approval. This year, we submitted legislation to the Executive Yuan establishing the Centre for Health Technology Assessment and Policy as an official organisation. We anticipate formal launch in the coming months.

Taiwan has piloted flexible approval pathways for cell, gene, and other advanced therapies. What lessons have you drawn so far, and how will these pathways evolve as such technologies mature and costs escalate over the next decade?

Our experience reinforces the centrality of rigorous health technology assessment and reassessment. In oncology, our immediate priority has been alignment with international standards, particularly the NCCN guidelines. The Cancer Drugs Fund, launched this year, provides five billion New Taiwan dollars, with a further five billion committed next year, progressing toward the President's ten-billion commitment. This funding enables rapid coverage of guideline-aligned targeted therapies across this and the coming year.

For advanced modalities such as gene therapy and CAR-T immunotherapy, disciplined evaluation becomes even more critical. These therapies are transformative but exceptionally costly. We are therefore expanding HTA capacity, transitioning from a limited task-force model to a dedicated institution with stable funding and a workforce of approximately 300 professionals. Without this institutional depth, staff turnover undermines both evaluation quality and speed.

Beyond initial approval, health technology reassessment is equally important. We systematically re-examine approved novel therapies to assess years of life gained, total costs, population subgroups deriving the greatest benefit, and comparative outcomes against international data. This combined HTA–HTR framework ensures that flexible access pathways remain clinically sound, financially sustainable, and responsive as advanced technologies evolve over the next decade.

Industry stakeholders express understandable scepticism regarding the Cancer Drugs Fund's sustainability beyond initial budget allocations. How do HTA and HTR mechanisms ensure long-term innovation access once temporary funding concludes?

The establishment of the Centre for Health Technology Assessment and Policy creates stable infrastructure – workforce continuity, sustainable funding, and expanded capacity – directly addressing long-term sustainability concerns. Claims that the Cancer Drugs Fund is merely temporary misunderstand its policy rationale.

Taiwan has operated a global budget system since 1998. Public funding is the most efficient mechanism for investing in cancer treatment; alternative routes would require legislative approval to expand the global budget with earmarked cancer allocations, a process that can take years. President Lai's pre-election commitment to a ten-billion New Taiwan dollar Cancer Drugs Fund provided a clear mandate, enabling rapid implementation without protracted legislative delay.

In parallel, we are aligning Taiwan's cancer treatment protocols with international standards, particularly National Comprehensive Cancer Network guidelines. Alignment for lung cancer is complete, breast cancer is progressing rapidly, and other major cancers will follow sequentially. The Cancer Drugs Fund accelerates this convergence.

I therefore reject assertions of unsustainability. Cross-party legislative support remains strong, yet formally embedding the fund within National Health Insurance legislation would trigger complex congressional negotiations, often expanding into demands for parallel funds for rare or autoimmune diseases without matching budget increases, delaying action for years. Public funding, grounded in the President's mandate, avoids these obstacles while delivering timely benefits to patients and families – an approach that may appear unconventional internationally but is the most effective within Taiwan's legislative context.

Beyond reimbursement mechanisms, what role do value-based payment models and risk-sharing agreements play within Taiwan's healthcare system?

Taiwan's payment system has historically relied on fee-for-service models, which increasingly fail to optimise clinical outcomes. Fee-for-service demonstrates no inherent link to effectiveness. Over the past decade, primary care spending on the three highs rose from 40 to 50 percent, without corresponding outcome improvement, indicating increased visit frequency rather than better care quality.

To address this, we introduced pay-for-performance programmes in 2001, beginning with diabetes. Outcomes for enrolled patients are consistently superior, with markedly higher screening rates for diabetic retinopathy, neuropathy, and nephropathy, and stronger disease control. 74.9 percent of

participants achieve improved HbA1c levels within one year, validating the model.

This year, we further refined incentives by stratifying patients into six categories using comprehensive national data. Stable cases are directed to community clinics, while medical centres focus on severe complications requiring emergency or intensive care, improving alignment between clinical acuity and resource use.

In parallel, we strengthened pharmaceutical risk-sharing by amending National Health Insurance regulations in April to formalise managed entry agreements. Following FDA approval, medicines may receive provisional reimbursement for up to two years, after which real-world outcomes are assessed. If benefit is insufficient, reimbursement is withdrawn. Financial risk is therefore shared with manufacturers under clear legal frameworks.

Predictability is central to this approach. Industry seeks sustainable returns; government seeks measurable patient benefit. Reimbursement levels are predefined, with proportional clawbacks if post-approval evidence fails to demonstrate value within one to two years. Terms vary by disease area, with different considerations for rare diseases and oncology. These transparent rules provide clarity for international pharmaceutical companies considering investment in Taiwan.

Which technological developments generate greatest enthusiasm, and how are you integrating advanced technologies into National Health Insurance Administration processes?

Data governance is our most powerful strategic asset. Public narratives can be misleading, but rigorous analysis of National Health Insurance data allows us to distinguish isolated institutional issues from systemic trends. We are now deploying this capability to integrate prevention directly into care delivery. Under Healthy Taiwan, the 888 programme targets 80 percent of patients with the three highs for structured lifestyle intervention, correcting the historical separation between treatment and prevention.

Around 80 percent of chronic disease patients are now enrolled in digitally enabled care networks through the “Big Family Physician Platform”, enabling detailed analysis of utilisation, comorbidities, and costs. Chronic illness affects 8.5 million of Taiwan’s 23.5 million citizens, making it our largest disease burden. In parallel, we are building national cancer databases that combine genomic and treatment data, structured to FHIR standards to support international research collaboration.

We are also linking National Health Insurance and long-term care datasets – previously siloed systems – through a multi-year integration launched this June. This will enable full lifespan analysis, from chronic disease through acute events to long-term care, supporting more coherent and cost-effective policy design. When international counterparts ask why Taiwan performs so well, the answer is consistent: sustained investment in digital infrastructure and comprehensive, linkable data that enable evidence-based policy making.

Taiwan is celebrating thirty years of National Health Insurance, consistently recognised as a global exemplar. What message would you convey to international healthcare leaders regarding Taiwan's strengths and ongoing challenges?

Our core strength lies in applying digital technology and rigorous data governance to optimise healthcare delivery and reimbursement, enabling Taiwan to sustain a resilient, high-quality, and transparent system at exceptionally low cost.

Rapid population ageing poses significant financial pressure, yet under President Lai's physician-led administration we have adopted a clear paradigm shift: health is treated as an investment rather than a cost. The global budget rose by 5.5 percent this year, with comparable growth projected next year – an unprecedented trajectory that I expect to continue into his third year. Ageing societies across Asia will require similar commitments to maintain quality care.

Cancer has been Taiwan's leading cause of death for 43 consecutive years, making the Cancer Drugs Fund, launched this year, a necessary intervention. In parallel, we are integrating health promotion directly into insurance coverage for chronic disease management.

A flagship example is My Health Bank, developed by the National Health Insurance Administration and now Taiwan's most downloaded application, with twelve million users. Citizens can access complete medical records – including laboratory results and blood glucose data – allowing families to support elderly relatives and reducing unnecessary clinic visits.

We are extending this platform through public–private partnerships. Eight technology companies, including Apple, have signed memoranda of understanding, enabling integration of data from devices such as the Apple Watch with National Health Insurance records in a single interface. This reflects our guiding principle: individuals own their data and are empowered to manage their own health.

This approach also marks a cultural shift away from paternalistic medicine towards shared decision-making. By democratising data access and partnering with organisations such as Google Health and Apple, citizens can monitor sleep, glucose, and blood pressure seamlessly. When these capabilities are presented internationally, the reaction is consistently one of admiration.

European data protection regulations present formidable obstacles to comparable innovation. What perspective do you maintain regarding GDPR and similar frameworks?

In shaping our approach, I consulted European privacy law experts alongside American colleagues, who consistently advised preserving regulatory flexibility given Taiwan's comprehensive data assets and emerging role as an AI-enabled health system. While Europe is cautiously easing restrictions, we proceeded incrementally, with clear rules and safeguards, and found strong public support as citizens valued secure access to their own data on personal devices. The logic is straightforward: if individuals can conduct highly sensitive financial transactions via mobile applications, there is little justification for requiring hospital visits simply to obtain personal health information.

In Taiwan, authenticated digital platforms now provide immediate access to complete medical records, a shift reinforced by generational change away from paternalistic medicine towards collaborative, data-empowered patient engagement. Younger patients, in particular, expect transparency and shared decision-making rather than deference to authority, and this cultural evolution is accelerating acceptance of digital health innovation.

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