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How Testing is Reshaping Front Door of Care in Thailand

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Thailand is undergoing a diagnostics renaissance, driven by rising chronic diseases, an ageing population, and digital health transformation. Diagnostics are expanding beyond hospitals into community settings, supported by interoperable digital systems, precision medicine initiatives, and AI-powered screening. Together, these developments are making healthcare more proactive, connected, and focused on early detection and better long-term health outcomes.



Thailand is entering a diagnostics renaissance, shifting from illness confirmation within hospitals to early diagnosis that helps prevent disease, guide treatment decisions, and connect care across multiple settings. This shift is not the result of a single breakthrough test or technology. Rather, it is being driven by several forces moving together in the country, including the burden of chronic disease, rapid ageing, a strong universal coverage platform, and a national push to modernise digital health infrastructure.

Diagnostics takes centre-stage

Thailand's health burden increasingly requires ongoing measurement, not one-time diagnosis. According to the World Health Organization's Prevention and Control of Non-communicable Diseases (NCDs) in Thailand, four NCDs, including cancer, cardiovascular diseases, diabetes, and chronic obstructive pulmonary disease (COPD), account for 400,000 deaths,

representing 74 per cent of annual deaths in the country.

This makes early disease detection and routine diagnostics essential rather than optional. Additionally, according to the National Statistical Office's Statistical Yearbook 2025, 20.8 per cent of Thailand's population is aged 60 and above. This demographic shift is expected to make Thailand a super-aged country by 2031. As a result, the healthcare system will face increasing pressure to address chronic disease management and long-term healthcare needs.

When a country such as Thailand shifts from treating episodes to managing long-term chronic conditions, diagnostics become the health system's early warning and navigation tool. So, what does a "diagnostics renaissance" look like on the ground in Thailand? It looks less like a dramatic leap and more like steady progress across several shifts. Taken together, these changes are pushing diagnostics into the centre of how care is delivered.

Here are the shifts that best capture those transitions:

Shift 1: Diagnostics is moving beyond hospitals

A key marker of the diagnostics renaissance is decentralisation, making testing more accessible to where people live rather than restricting it to hospitals. Thailand has started moving in this direction through the Universal Coverage Scheme (USC) ecosystem, including the "Lab Anywhere" programme, which enables USC beneficiaries to access a set of lab tests outside hospitals at participating medical technology clinics. The programme includes ISO 15189 among its clinic requirements, reflecting the country's efforts to expand diagnostic testing without undermining trust in results.

Shift 2: Digital health convergence makes diagnostic data actionable

A critical factor behind the success of decentralised testing is the ease with which diagnostic test results can be accessed and shared across the care pathway. Thailand's digital health efforts acknowledge persistent challenges, including fragmented systems, that limit the effective delivery of care and public health services. To address these issues, the WHO-Thailand ConvergeDH programme focuses on governance, standards and interoperability, data protection frameworks, open data, and virtual hospitals or telemedicine, all of which support the development of connected diagnostics. Thailand's policy reporting direction also reinforces these efforts, with the Ministry of Public Health advancing the Digital Health Act framework to govern health data exchange, artificial intelligence (AI), and telemedicine. Over time, this could enable faster diagnosis and reduce duplicate testing.

Shift 3: Precision diagnostics defining national infrastructure

Precision medicine is shaping modern diagnostics, and Thailand has taken important steps in this direction. According to the National Biobank of Thailand, Genomics Thailand is a cabinet-approved action plan (2020–2024) aimed at building a large national database, including a bioinformatics system to store and process genetic samples of 50,000 individuals. Priority areas include cancer, rare diseases, chronic diseases, and infectious diseases, where molecular diagnostics plays a critical role in clinical decision making. The ConvergeDH programme also highlights the need for standards and interoperability in genomics, including consent-based approaches to sharing genetic results between patients and clinicians. Precision diagnostics create value when they are embedded in real care workflows rather than isolated within specialist silos.

Shift 4: AI-powered screening as diagnostic capability multiplier

The Digital Economy Promotion Agency (DEPA) and AstraZeneca Thailand formed a partnership in 2023 to promote the use of AI, beginning with lung cancer screening, and with plans to expand into other forms of cancer screening. The collaboration aims to work with network hospitals, reach more than one million people across the country and extend services to remote areas. The Ministry of Public Health is also promoting innovation and AI as part of a broader digital health system strategy. For example, Siriraj Hospital has developed AI tools for chest X-ray, brain imaging, and mammogram interpretation. The hospital has transferred this technology to more than 145 hospitals under the Ministry of Public Health and is expected to reach 450 hospitals by the end of 2026. AI is an effective capability multiplier for triage, faster diagnosis, and insights generation, but its value realisation will still depend on confirmatory testing, regulatory pathways, and reimbursement mechanisms that will support early disease detection in the country.

A diagnostic renaissance can scale only when people trust the test results and when healthcare providers can adopt new tests without any safety, quality, or cost-related disruption. In Thailand, that trust is being built through a combination of device regulation that sets clear evidence expectations, laboratory accreditation that strengthens confidence in performance and results, system-level controls that reduce variability and support accountability, and digital governance that connects systems while protecting patients' information. Together these factors shape how innovative tests are introduced, used, and reimbursed. These drivers can help make diagnostic modernisation both safe and scalable.

What to watch next

Thailand’s diagnostics renaissance reflects broader system transition, with access moving from hospitals toward community and clinic-based testing. At the same time, national interoperability efforts are helping diagnostic data flow more effectively across the system. Diagnostic decision-making is also becoming smarter through precision medicine and AI-powered disease screening. It will be important to see whether programmes such as “Lab Anywhere” expand their networks, test menus, and geographic reach while maintaining required quality standards. Additionally, the development of lab quality infrastructure, the reduction of redundant assessments, and lower compliance friction for laboratories, while strengthening consistency across settings, will be important growth enablers for Thailand.

Thailand’s next differentiator will not be the adoption of new diagnostic tests; it will depend on whether the country can align benefit design, data governance, and workforce capacity, so that diagnostic innovation translates into better population-level outcomes.

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