

Japan's Tech-Driven Health Shift

Facing rising healthcare costs and an aging population, Japan is turning to artificial intelligence, digital transformation and pharmaceutical innovation to shape a sustainable, global model for medical care.

By Bernard Thompson and Daniel de Bomford

Neon-drenched cityscapes, humanoid robots, high-tech factory floors: Japan evokes a sense of a future just around the corner, where advanced technology assists humans in their day-to-day life. It's a future where precision engineering and artificial intelligence complement each other, improving health outcomes with predictive health modeling and technology assisting clinicians in identifying health threats.

Japan is considered a super-aged society, as its share of people over 65 surpasses 30 percent of the population. The working population is shrinking, and healthcare costs are expected to reach 50 trillion yen by 2030. Japan is tackling this with a technological revolution, with investment and digital transformation (DX) revolutionizing healthcare services and health outcomes for professionals and patients alike.

"The most fundamental strength of Japan's pharmaceutical sector lies in its robust scientific foundation."

Toshiaki Nagasato,
President, Meiji Seika Pharma Co., Ltd.

AI-Assisted Healthcare

Olympus is no stranger to leading innovation, having invented the first commercial gastrocamera. Now, it is taking that technology to new heights by integrating digital technologies like AI into its OLYSENSE™ platform. Currently, the primary focus of this technology is to assist healthcare professionals in visually identifying cancer. Olympus Corporation Global Digital Officer Dr. Slawek Kierner explains, "AI can assist in detecting adenomas—precancerous polyps in the colon—with greater accuracy and consistency than human observation alone." Workforce shortages compound challenges from increasing procedural volumes, and it's here that AI and digital tools become invaluable.

President and CEO of OMRON Healthcare, Ayumu Okada, shares the sentiment, especially in preventative medicine. "We would like to utilize these digital technologies to realize early detection and prevention of serious diseases," she says. If detected late, conditions like cardiovascular disease often involve long-term treatment resulting in high medical costs. OMRON is partnering with researchers and companies that complement the capabilities of its at-home monitoring devices. By analyzing measurements taken at home, pairing them with personal health record (PHR) data, and leveraging AI to assist healthcare professionals, the company

can provide more informed insights that may help predict diseases or conditions affecting the patient.

Care Reimagined in the Digital Age

DX is vital for Japan to continue to develop world-leading medical and preventative care, and Itabashi Medical System Chairman Dr. Tetsuya Nakamura describes it as a "major focus" for the company. Nakamura says he is deeply interested in pioneering preventative technology. "Innovations such as blood-based diagnostic kits and gut microbiome analysis are revealing early markers of diseases—including conditions like dementia and depression—even before symptoms appear," he states. By integrating diagnostics with digital platforms, patients can receive health insights remotely, thereby reducing the burdens associated with travel.

Beyond data analysis for preventative care, AI offers the ability to analyze ongoing metrics for lifestyle-related health data, such as daily exercise routines. For the last 15 years, wellness provider zen place has been working with its partners to develop measurement tools that leverage breakthroughs in AI and blockchain. President Naruhiko Ozaki says that the company has introduced a device into its studios that measures the total power of the autonomic nervous system, which can be integrated with the company's app. "Based on that, we're developing yoga and Pilates lessons specifically designed to help improve this metric," Ozaki says.

"Fundamentally, digital technology empowers us to improve clinical workflows and, most importantly, save lives."

Slawek Kierner,
Global Digital Officer, Olympus Corporation

Fighting Global Health Threats with Pharmaceutical Innovation

Innovation, by necessity, requires investment in research and development. Japan's pharmaceutical industry invests approximately 1.5 trillion yen in R&D each year, positioning it as a global leader.

The global pandemic was a wake-up call for the medical sector, which was already in the throes of a silent battle against antimicrobial resistance (AMR). Meiji Seika Pharma Chairman Daikichiro Kobayashi considers AMR to be one of humanity's most pressing challenges. The World Health Organization (WHO) concurs and deems Carbapenem-resistant Enterobacterales (CRE) a critical priority for new drug development. "We

see this as an urgent area for innovation," Kobayashi says. Meiji Seika Pharma is developing new drugs that can combat pathogens that resist typical antibiotics.

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Ayumu Okada,
President & CEO, OMRON Healthcare, Inc.

Japan as a Global Healthcare Provider

As Japan's population shrinks, the Japanese medical sector is looking outward for new markets. Southeast Asia and India are a particular focus, especially for pharmaceutical companies like Meiji Seika Pharma. The company already operates in India through its wholly owned subsidiary Medreich Limited where it produces generic drugs. The subsidiary also provides a launchpad for Meiji Seika Pharma to export its own innovative medicines to the region. "We see ASEAN and India as our most immediate opportunities, with Africa as a longer-term frontier," the chairman says.

Japan's advanced medical sector also makes it an attractive destination for medical tourism. Dr. Nakamura describes Japan as having previously lagged behind its regional neighbors due to its isolated geography and large domestic base, but this is beginning to shift. "Recognizing demographic changes and the opportunity to share Japan's high-quality healthcare globally, we started establishing offices in Southeast Asia, such as Vietnam," he says.

Japan's push to transform healthcare through technology is both a response to shifting demographics as well as a reimagining of what care can look like in the 21st century. With an aging population and a shrinking workforce, the country faces a complex web of medical and economic challenges. However, through targeted innovation in diagnostics, artificial intelligence, preventive care and pharmaceutical research, Japan positions its medical sector to become the model of a future-ready, highly developed medical industry. The integration of high-tech tools into daily medical practice and the expansion into overseas markets suggest that this is more than a national strategy, but a model with international relevance. Whether improving detection of chronic conditions or exporting medical expertise abroad, Japan's healthcare evolution demonstrates how a society can adapt with clarity, urgency and vision.

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