

Japan to lead way in global healthcare challenges

On January 2nd, 2022, Kane Tanaka celebrated her 119th birthday in the Fukuoka nursing home where she lives. The oldest living person in the world, Tanaka's longevity encapsulates Japan's demographic marvel, as the country with the longest life expectancy in the world, at an average of 85 years.

Underpinning this extraordinary achievement are many factors, one of the most prominent being the excellence of the nation's universal healthcare, a system that owes its success to the strong foundations built through decades of government policy and a flourishing private sector that has enabled Japan to cement its place as the third largest pharmaceutical market and fourth largest medical technology market in the world. Moving forward, Japan's pharmaceutical and healthcare companies aim to place themselves at the forefront of global health challenges, from developing treatments for rare diseases, prevalent illnesses and cancer, to addressing the healthcare issue brought about by an aging population.

"With regards to the next ten years in healthcare, I think it will change a lot because of the aging demographic of Japan. This is a crucial factor as the needs of public health will change and caregivers will become more important," says Keiko Oishi, president of CMIC, a leading innovator in the healthcare industry which pioneered the CRO business in Japan over 28 years ago and now aids foreign companies looking to enter the Japanese market.

"There will also be a stronger focus on prevention, which has already begun. Simply put, if fewer people get admitted to the hospital, public health costs can be reduced. This is particularly important in aging societies. We believe that personal healthcare focusing on both prevention and treatment will become the standard, which is why we are shifting our business model from PVC (pharmaceutical value creator) to PHVC (personal health value creator)."

Sano Yoshihiko, president of global healthcare leader Nipro, also highlights the shift towards preventative treatment in developed nations with aging populations like Japan. "In advanced countries the awareness of

preventive treatment is spreading, and the money allocated for this is increasing. One of the examples is supplements; there are many people spending a huge amount of money each month for supplements. We do not have a plan to produce supplements, however, we are going to keep producing products for preventive treatments."

As Nipro looks to strengthen its already large global presence, dialysis treatment in the U.S. is a target focus for the company, whose dialyzer machines have been a key product in the U.S. market. "The U.S. has the highest number of people undergoing dialysis and one of our core products for dialysis has a large share in the U.S. market because we have developed that product with the highest level of quality monitoring here in Japan," explains Mr. Yoshihiko. "That is why we were able to be competitive there. We have about a 15% market share there and I think it will continue to grow."

Established in 1678, Mitsubishi Tanabe Pharma Corporation (MTPC) is the oldest pharmaceutical company in Japan. Having been at the forefront of medical innovations for over 300 years, today the company is focusing on developing treatments for illnesses such as amyotrophic lateral sclerosis (ALS) and Parkinson's disease, as well as coronavirus, for which it has developed a world-first plant-based vaccine.

"We are a Japanese-based pharmaceutical company with a very long history, and we want to expand globally. The U.S. is our highest priority country or area, so that's why we have invested heavily in our U.S. business. We've had a long history of subsidiary companies in Europe which have been developing drugs as well," says company president Dr. Ueno Hiroaki when discussing MTPC's global strategy.

"On the other hand, in Asia, and especially in China, there are more promising opportunities, and we are now seeking business engagement in the area. We will advance the development of new drugs in collaboration with the drug discovery in the U.S. operational bases, obtain approval in the U.S., and then develop products in Europe, Japan, and Asia, including



Keiko Oishi, President, CMIC HOLDINGS CO., LTD.

China. We will be looking at very high-efficacy drugs."

Antibiotic-resistant bacteria (ARB) has become a major issue globally which today is responsible for more than 700,000 deaths worldwide. And that figure could grow to 10 million according to WHO estimates. Tackling ARB is one of three major focus points for Miyarisan Pharmaceutical, along with cancer and digestive diseases. A champion of co-creation, Miyarisan works with a number of global partners including BASF, Huvépharma in Bulgaria, and OSEL in the U.S.

"One reason for the rise of ARB has been the widespread use of antibiotics in livestock as a growth promoter. Antibiotics targeted at livestock are most prevalent in China, the United States, and Brazil," says Miyarisan president, Masayuki Uchida. "We've developed our new partnership with BASF for exactly that reason – to be able to expand into these areas and address this issue. We have researched and discovered a substance that does not produce ARB based on a new way of thinking and we have filed a worldwide patent for this substance."

Zacros (Fujimori Kogyo) has also been expanding business through co-creation with other companies both in Japan and overseas. "We are developing technologies for culturing large numbers of artificial cells, such as iPS cells, and are actively collaborating with other companies," says president Eishi Fuyama, who also highlights the company's development of the world's first medical device that measures and analyzes blood flow in blood vessels to prevent thrombosis. "The device was approved by the U.S. Food and Drug Administration in February 2020 and is already being used by universities



Sano Yoshihiko, President, Nipro Corporation

in Sweden and hospitals in Italy and California."

Established in 1913, Dojindo Laboratories has been a pioneer in the field of reagents for decades and continues to seek partners worldwide to expand its global reach. The company is well known for CCK-8, a cell counting kit on which over 5,000 academic papers have been written about its practical uses. "CCK-8 is a combination of not only our research and development work, but also of critical thinking to find an excellent use for a compound that was originally developed for a different purpose," explains president, Dr. Yuichiro Ueno. "CCK-8 became an almost essential reagent for many researchers as it measures cell proliferation, cellular vitality, and cytotoxicity, making it an indispensable tool for determining cellular vitality in many fields of research."

A lot of attention has been put on PCR testing over the past two years due to the COVID-19 pandemic, and it is an area in which Precision System Science (PSS) is pioneering innovation. The company has developed a fully automated PCR testing system that reduces testing time from six to two hours and removes the possibility of human error, while its partnership with a European company prompted its recent move into the field of PCR reagents.

"While we didn't have PCR reagents before establishing the partnership, we did have the machinery and extraction reagent," says president Hideji Tajima. "Currently, we are looking into new technologies and reagents, especially for cancer and Alzheimer's. There is a unique particle present in the blood and we are looking to create a reagent that can extract it, and which can be used to provide an accurate diagnosis using our machinery."

Automation is increasingly empowering health providers to offer better services, including increased efficiency and better patient management. "More and more Japanese healthcare services are now using automation for dispensing medicine so that pharmacists, nurses, and other healthcare professionals have more time for patient care," says Yoshihito Omura, president of Tosho Inc., a leading manufacturer of medicine dispensing machines and pharmacy equipment that is looking to expand its international operations. "As of now, we offer only pouch dispensing machines for our international business but have other products such as our injection dispensers for hospitals that we are looking into launching in the future. In Japan and Asia, we also cater to hospitals. We are looking to target more hospitals internationally, basically targeting healthcare in general for everyone across all ages."

In an increasingly health-conscious world, the market for functional foods continues to grow and Taiyo Kagaku aims to leverage that growth with its range of high-quality products. "We have seen a huge increase in the demand for healthy

and functional foods and supplements worldwide," highlights president, Nagahiro Yamazaki. "Our company is also seeing an increase in global sales of soluble plant fibers that improve intestinal health and the microbiome. As consumers become more knowledgeable about health, the market for functional health foods will continue to grow. We are committed to educating the public about the importance of good health."

Beyond human health, Japan is also leading the way in animal healthcare thanks to companies like Kyoto Biken, which produces 34 vaccines, including bovine, poultry, porcine, fish and plant variations. The company aims to put more focus on the pet market, which has offered the company the biggest growth of late, while also maintaining its large market share for bovine vaccines and developing new projects in the areas of porcine and poultry vaccines.

"In order to achieve this goal, we are collaborating and partnering with other companies as well and we will boost those efforts. There is also potential for growth in the plant vaccine market, where we

have a product line-up that is unique not only in Japan but also globally," says president, Dr. Yasutaka Igari.

With companies like Sangi and Yamahachi Dental, Japan is also pioneering innovation in dental healthcare. Selected as a Global Top 100 Niche Company by Japan's Ministry of Economy, Trade and Industry in 2020, Yamahachi Dental has the second largest production capacity for artificial teeth in the world, boasting a lineup of about 30 main different types of artificial teeth with numerous variations. Already with a presence in 80 countries, the company is eyeing further global expansion, particularly in fast-growing Asia. "We would like to target Asia and Southeast Asia where there is rapid economic development. Artificial teeth are a necessary commodity. We would like to be able to meet market demands as they grow," says president, Masashi Toyama. "Of course, we are also turning our focus to America, Europe and beyond. We have some very hard-working distributors all over the world trying to get Yamahachi products out there."

Sangi, meanwhile, has been at the forefront of dental care with

its range of enamel-restorative toothpastes that harness the power of hydroxyapatite. "Hydroxyapatite is a material with unlimited possibilities," highlights chairman Shuji Sakuma. "At the very least, I would like to have expanded it to other applications such as catalysts and medical devices, and to have built a firm market in those new fields. It seems too limited to see it restricted to a market solely for toothpaste products."

From CMIC to Sangi, with ambitious and innovative companies across the board in healthcare, it is no wonder that Japan is ready to lead the world in global healthcare challenges that will define the 21st century.

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Kyoto Biken: A wide-ranging approach to animal health problems



"Our bovine vaccine line-up includes unique toxoid vaccines to prevent Clostridium and Botulism."

Dr. Yasutaka Igari,
President,
Kyoto Biken Laboratories, Inc.

Kyoto Biken is an all-in-one manufacturing business when it comes to the field of animal health. The Japanese firm's corporate philosophy, "Animal Well-being Matters", originates from the active role it played in securing public hygiene and a stable food supply thanks to its

Founded in 1948, Kyoto Biken has contributed to animal health through its holistic approach, comprising R&D, manufacturing and marketing of veterinary vaccines and diagnostics.



Headquarters in Kyoto

various products at a time when Japan was facing a food crisis.

The company proudly boasts 34 vaccines currently on the market, including poultry, porcine, fish and plant versions, with its bovine vaccine serving as the largest source of pride. The vaccine holds 100% share of the market for Japan's world renowned and top-quality Kobe beef. These particular animal jobs are helping the company reap a lot of success in overseas markets, such as Egypt and the UAE.

In line with its goals for further expansion and increased collaboration overseas, Kyoto

Biken aims to make use of its wealth of experience and expertise to help livestock farmers in developing countries. This will be achieved by working with local wholesalers and governments in order to determine the diseases that are of most concern in local areas and then helping to tackle those diseases with the company's current vaccines - or, if necessary, through the development of vaccines tailored to local needs.



Vaccine for bovine

Kyoto Biken's outward-looking approach in tandem with current market trends will provide the company with exciting possibili-

ties in both the near and distant future. Kyoto Biken is planning to expand its R&D for the develop-



Factory in Kyoto

ment of new types of vaccines, while also pushing ahead with collaboration with the academic sector and emerging venture companies. Furthermore, the company's newly built facility in Kyoto is set to start operation in 2024. In an increasingly interconnected world, more questions will be raised in the animal health industry, and thankfully Kyoto Biken is in possession of the answers.

KYOTOBIKEN
www.kyotobiken.co.jp/en