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TENKAI
PROJECT NEWS

Bringing Japan's Health Care to the World

Good practice seen from a seven-year trajectory

Vietnam | Myanmar | Indonesia | Mongolia | Zambia | Democratic Republic of the Congo | Brazil

TENKAI Project News

Contents

Introduction

Under the universal health insurance system, Japan has achieved the highest level of healthy life expectancy and healthcare standards in the world. The world's leading medically advanced country is supported by world-class medical services and technology, such as high-quality pharmaceuticals and medical equipment, trained medical personnel, and welcoming medical institutions.

The Project of Global Extension of Medical Technologies (hereinafter referred to as the "TENKAI Project"), implemented by the National Center for Global Health and Medicine (NCGM) and funded by the Ministry of Health, Labour and Welfare since FY 2015, is an initiative to expand medical technology and services internationally, in collaboration with governments, companies, research institutes, and educational institutions. The objective is to deploy Japanese medical technology and services to low- and middle-income countries, thereby contributing to the resolution of global health issues and strengthening Japan's competitiveness. The project seeks to share knowledge and experience regarding Japan's healthcare system, transfer medical technology, promote the international expansion of high-quality Japanese pharmaceuticals and medical devices, and stimulate the growth of the Japanese medical field while contributing to the improvement of public health and medical care standards in partner countries. The project is intended to increase trust in Japan in the international community and create a virtuous cycle for Japan and the partner country.

The project is operated every year in the form of an open call for proposals, and more than 30 projects are implemented. From FY 2015 to FY 2021, 234 projects have been implemented. Through multiple years of project implementation, many projects have yielded results, but other projects have also required the consideration of exit strategies. In this issue, TENKAI Project News Vol. 2, we would like to introduce some of these 234 projects that are particularly representative of good practice.

Noriko Fujita

Executive Director
Project of Global Extension of Medical Technologies

Cover photo: PURE-TB-LAMP operator training in Zambia
"Expanding program of diagnostics for tuberculosis using PURE-TB-LAMP in the Republic of Zambia"

Bringing Japan's Health Care to the World

Good practice seen from a seven-year trajectory

Contributing to global health through international medical development

To solve global health issues, Japan recognizes the importance of sharing good technology and delivering medical products. The TENKAI Project by the Ministry of Health, Labour and Welfare was launched in FY 2015 to support the international expansion of Japanese medical care. It is a new form of international cooperation that aims to grow Japan's medical field as part of its business, instead of adopting the traditional structure of rich countries giving aid to financially backward countries. The products and services of Japanese companies have many excellent aspects, such as technology and mechanisms. They can contribute significantly to the development of target countries by combining the operation system and management of Japanese medical facilities, training and facility management, and operation. Further, Japanese technologies and medical products will continue to contribute to solving health issues in low- and middle-income countries by being listed in the prevention and treatment guidelines and insurance of partner countries. Many companies hope to contribute to creating a better society through their business. Developing cooperation as a business will lead to sustainable development and improve medical standards in target countries. The participation of medical-related companies aiming to expand into low- and middle-income countries has not been included in conventional official development assistance (ODA).

Focusing on medical personnel development

The TENKAI Project focuses on training projects based on the health and medical issues of target countries and regions. Major areas include diagnostic technology (e.g., clinical examination, diagnostic imaging such as radiation, endoscopy, cancer diagnosis), prevention and treatment technology (e.g., surgery, intensive care, blood transfusion, rehabilitation, dialysis), medical device management, quality and safety of medical care, health checkups, and pharmaceutical certification systems. We also support areas that other partners do not support by focusing on issues difficult to address with ODA (e.g., issues related to people's quality of life but not necessarily high morbidity/mortality rates).

Participating companies and organizations are screened and selected by public offering on an annual basis, receive funds under a commissioned project (project), and conduct activities for approximately 10 months. A project evaluation framework has been introduced to clarify the process of project implementation (process), the results immediately after implementation (outcomes), and the results expected several years later (impacts), after which the project results are refined. Some of the successful projects have been operated for multiple fiscal years to achieve the impact indicators. Annual activities are announced at the end of the fiscal year and published in a report.

Basic concept of international health care expansion

Outbound
Export superior medical devices and services

Inbound
Training of overseas medical staff in Japan and accepting of patients when local treatment is difficult

Japan

Health care industries...

Invent produce new and better pharmaceuticals, medical devices, and services.

Produce pharmaceuticals and medical devices that can be used in harsh natural environments such as high temperatures and dry conditions, as well as in environments with poor infrastructure.

Collaboration & Cooperation

At clinical sites...

Accept foreign health staff and provide training.

Provide advanced medical care to foreign patients.

The Government...

Develops organizations and networks to promote international expansion.

Support international expansion by companies and organizations.

Overseas
(mainly low-and middle income countries)

Create health systems and deploy necessary devices and services to meet local needs.

For example...

- Create systems to properly manage advanced medical devices in hospitals.
- Build medical facilities that provide highly accurate medical examinations and checkups.
- Provide technical training for medical staff in handling medical devices and patient care.
- Promote services for early detection of diseases, such as simple tests that can be used in a variety of environments.

Outcome

Improve local health care.

Help people around the world to live healthier lives.

Project data for FY 2015-2021

item/fiscal year	2015	2016	2017	2018	2019	2020	2021	Total
Number of project implementation on countries	13	14	17	13	12	13	14	96
Number of projects	28	31	33	29	38	44	31	234
Number of trained trainees	4,982	4,783	5,489	4,384	7,763	15,922	23,239	66,562

Partner countries implementing Projects for Global Extension of Medical Technologies (TENKAI Project) from 2015 to 2020

Asia
- India
- Republic of Indonesia
- Republic of Korea
- Kingdom of Cambodia
- Republic of Singapore
- Kingdom of Thailand
- People's Republic of China
- People's Republic of Bangladesh
- Republic of the Philippines
- Brunei Darussalam
- Socialist Republic of Viet Nam
- Malaysia
- Republic of the Union of Myanmar
- Mongolia
- Lao People's Democratic Republic

Oceania
- Independent State of Papua New Guinea

Africa
- Federal Democratic Republic of Ethiopia
- Republic of Ghana
- Republic of Cameroon
- Democratic Republic of the Congo
- Republic of Zambia
- United Republic of Tanzania
- Federal Republic of Nigeria

Europe
- Republic of Uzbekistan
- Turkmenistan
- Russian Federation

Middle East
- Islamic Republic of Iran
- Kingdom of Bahrain

Latin America
- Federative Republic of Brazil
- United Mexican States

Transformation in COVID-19 pandemic and accomplishments over seven years

Seven years have passed since the inception of the TENKAI Project, and various results have been achieved. From FY 2015 to FY 2021, 234 projects were implemented in 96 countries, and 66,562 medical personnel were trained. From FY 2020, domestic and international travel have been restricted due to COVID-19 pandemic, making it difficult to conduct conventional face-to-face training. The TENKAI Project have been converted to online training to obtain the maximum effect.

Planning and implementing training online cannot confirm the resulting technology face-to-face. However, training can be conducted using a mobile phone, which helps provide training opportunities to more healthcare professionals. In many projects, teaching materials and tools adopting various digital technologies and innovations were created, such as remote instruction applications, surgical videos, and simulated work experience using virtual reality. Consequently, the number of trainees who learned through the project doubled compared with the previous year, indicating the unexpected effect of reducing the disparity in training opportunities between urban and rural areas.

Moreover, as we continue to expand the project, the impact of the international expansion of medical technology and equipment is increasing. In FY 2020, eight cases of medical technology were adopted as national plans and guidelines in implementing countries, and 12 types of medical equipment were procured in implementing countries for seven projects. Looking at the three years from FY 2018 to FY 2020, we confirmed that 15 cases in 7 countries, out of 114 projects implemented, were listed in the guidelines, and 50 types in 9 countries led to procurement. In some cases, the training conducted in the project was designated as continuing education for healthcare professionals certified by national academic societies and governments. Thus, by being listed in national-level medical guidelines, the training becomes widely known in Japan. Health insurance coverage is expected to promote self-procurement and continuous operation of technology, leading to sustainability.

In Japan, suggestions and knowledge related to the international development of medical care have been accumulated through project activities and are being widely disseminated through academic conferences, papers, and public relations activities.

Increasingly visible good practices

Currently, the interests and needs of the international community in the field of health and medical care are at an all-time high. In international cooperation, the emphasis is on ensuring that the technology takes root in the country even completing the support so that the people of that country can develop it autonomously. In the TENKAI Project, previous trainees have passed on their skills to medical personnel in their own countries, spreading knowhow to surrounding medical facilities and eventually to the entire country, thereby creating various impacts and new value in healthcare in each country. Seven years since the project's inception, we can see the good practices accumulated by the many projects implemented.

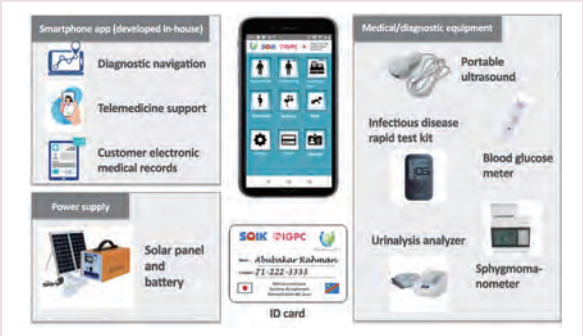
Saving the lives of expectant and nursing mothers and babies by digitization of antenatal examination

| Democratic Republic of the Congo | SOIK Co., Ltd.

Photo: Training using the digital antenatal health app S-PAQ at a hospital in the Democratic Republic of the Congo

A project to deliver obstetric examinations to villages without electricity

The maternal and infant mortality rates in the Democratic Republic of the Congo (DRC) are tens to hundreds of times higher than those in Japan because of the lack of access to health checkup services and poor quality of medical care. SOIK is working on the development and provision of S-PAQ, a digital antenatal examination package using a smartphone app as a platform, which can enable high-quality antenatal examination services even in rural areas of Africa. S-PAQ comprises smartphones, smartphone apps, online applications, patient/medical worker ID cards, medical equipment required for medical examinations, and solar power units. With the introduction of this package, even small rural health centers without electricity can provide health checkup services that meet national standards.



Overview of S-PAQ configuration

In 2021, SOIK, which started the project, offered an eight-day training to 11 doctors, midwives, and nurses on digital antenatal examinations using S-PAQ and portable ultrasound that can be used on smartphones. Further, the company entrusted the equipment to trainees from three hospitals in the country and had them work on improving their practical skills through a six-week on-the-job training program. At the end of the program, a seminar was held for sharing experiences and presenting the results. The seminar had been postponed after the invitation letter was sent out. However, the schedule was adjusted, the invitation was resent on a case basis, and the event was ultimately held. The results of the project were presented to many aid agencies and medical workers, including the General Secretary of the Ministry of Public Health, DRC, with which SOIK is an official technical partner.

Project activities in FY 2021 were also significantly affected by the frequent local strikes. Medical staff and government officials who had been working hard in response to COVID-19 appealed for improvements, as they had unpaid and delayed salaries. Nurses, midwives, doctors, government agencies, and even transport agencies went on strike in quick succession during their training period. When a strike occurs, expectant mothers are also worried about whether hospitals are open, leading to the number of antenatal examinations decreasing. However, SOIK made rounds and provided OJT, and the company could conduct 500 practical training sessions at hospitals, mostly as planned.

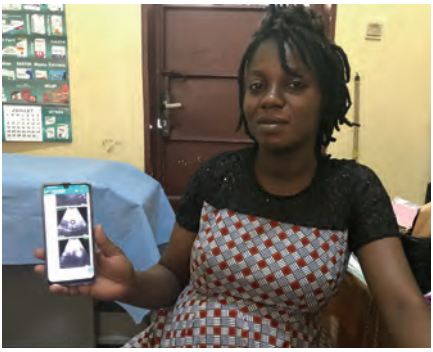
Use of digital technology for safer childbirth

Through OJT, the trainees' abilities in specific tasks clearly improved. In the digital antenatal examination, a big step forward was the division of roles according to the flow in the hospital, such as inputting patient information by the receptionist and running ultrasound and laboratory tests by another person. During OJT, trainees found suspected cases of twins and hydrocephalus, leading to definitive diagnoses in the ultrasound laboratory. Trainees could quickly share the ultrasound data saved on their smartphones with specialists and provide remote guidance for interpretation.

In one case, a pregnant woman who was preparing to give birth found out that her fetus was not sufficiently old for delivery after undergoing a digital examination on S-PAQ. Errors occurred in the conventional manual calculation of the expected date of birth. Therefore, automatic calculation of the smartphone app enabled a correction to the due date.

Additionally, there was the opinion that communication between nurses and pregnant women was promoted by a digital antenatal examination app that covered relevant items. Nurses can easily notice abnormalities by asking patients questions according to the navigation on the app. For example, in cases where a vaccine that requires three doses is only partially received, nurses could urge pregnant women to get fully vaccinated, and pregnant women who had not known the necessity of vaccination until then could get it immediately.

Training in the Democratic Republic of the Congo



Sharing ultrasound photos on a pregnant woman's smartphone during training at a hospital

Together with the first public–private partnership agreement by a Japanese company

After the first year of the project, a relationship of trust was built between SOIK and the top management of the Ministry of Public Health, DRC. In July 2021, a memorandum of understanding for a public–private partnership agreement was signed between the company's local subsidiary and the Ministry of Public Health. It states that the company will work jointly with the Ministry of Public Health to develop solutions that utilize technology and innovation in the health sector.

SOIK is currently developing packages in collaboration with Lequio's ultrasound, Melody International's fetal monitor, ARKRAY's biochemical and urinalysis equipment, OUI. Inc.'s ophthalmic camera, and MBS's blood sampling equipment. Further, while further expanding cooperation with other medical device manufacturers, SOIK is looking for partners, such as research institutes and hospitals, that will publish data. In addition to government and aid agencies, SOIK is also working to develop services for private hospitals and patients and establish a business model that enables a financially sustainable and rapid spread. Thus, the company aims to expand to the Democratic Republic of the Congo and neighboring countries.

S-PAQ is characterized by the availability of its main functions even when offline. However, remote support for medical workers is even more effective when connected to the internet. SOIK is looking forward to the future to develop S-PAQ into an important infrastructure as a digital healthcare solution platform for Africa by packaging it with communication equipment to accelerate local deployment.

(Cooperation: Kuniyuki Furuta, SOIK Co., Ltd.)

[Country] Democratic Republic of the Congo **[Project name]** "Training project on digital medical equipment and Japanese home visit healthcare service" (2020) "Training project on antenatal examination with digital technology" (2021) **[Implementing body]** SOIK Co., Ltd., https://www.soik.co.jp

Providing rapid and highly sensitive tuberculosis testing and diagnostic technology

| Zambia | Eiken Chemical Co. Ltd.

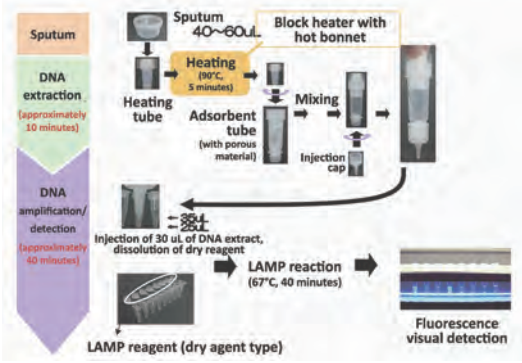
Photo: Training at Eiken Chemical

Status of tuberculosis testing in Zambia

The level of medical care in Zambia's urban areas is relatively high among Sub-Saharan countries. Culture and molecular testing (GeneXpert)—the most reliable tuberculosis testing method—is being implemented. Nevertheless, according to the latest statistics from the World Health Organization (WHO), the prevalence of tuberculosis is extremely high at 319 per 100,000 people (2021), and WHO has designated Zambia as a high-burden country for tuberculosis. One of the reasons for the prevalence of tuberculosis is the existence of unplanned residential areas called compounds with inadequate medical environment, resulting in a situation in which a rapid and accurate diagnostic system, which is important for tuberculosis control, cannot be sufficiently established. In such an environment, complex examination techniques are required, but most facilities can only provide microscopic examinations with low sensitivity. Through microscopic examination, professionals take a long time to make a judgment and even fail to diagnose approximately half of the tuberculosis patients.

PURE-TB-LAMP, an inspection method developed by a Japanese company

PURE-TB-LAMP is a diagnostic method for tuberculosis infection developed by Eiken Chemical using the loop-mediated isothermal amplification (LAMP) method—a proprietary nucleic acid amplification method. It is characterized by the capability to obtain results easily



Procedure for Mycobacterium tuberculosis complex detection by PURE-TB-LAMP

and quickly. Using this method, tuberculosis molecular testing can be realized in a testing environment with limited facilities. Many of the countries designated by the WHO as high-burden countries for tuberculosis are low- and middle-income countries. Given that tuberculosis testing is conducted in an environment with insufficient facilities, these countries need simple and highly accurate testing methods. PURE-TB-LAMP, which allows simple and rapid testing, was recommended by the WHO Policy Guidance in 2016 as a testing method that can replace conventional microscopy methods.

Project to disseminate rapid and highly sensitive tuberculosis testing and diagnostic technology

Eiken Chemical has built good relations with the Zambian Ministry of Health after participating in the FY 2015 Project of Global Extension of Medical Technologies, called Point of Care Testing (POCT) in Africa. With a deep understanding of each other's situation, the two parties discussed how the spread of PURE-TB-LAMP, a Japanese diagnostic technology, could contribute to tuberculosis control in Zambia. Subsequently, under the agreement of the relevant organizations of both countries, a project for dissemination was launched. The project began in 2017, based at the University Teaching Hospital (UTH), with those at the hospital learning about molecular testing and PURE-TB-LAMP. Two laboratory technicians each from UTH and Chest Disease Laboratory (CDL) and three laboratory technicians from Matero Level 1 Hospital (the medical institution) participated as trainees to acquire technological expertise in PURE-TB-LAMP.

The beginning was marked by various issues, such as difficulty handling pipettes used for operation, difficulty understanding the procedure, and the question of why they had to learn PURE-TB-LAMP when they could use a competing automatic inspection device. However, through repeated training and discussions locally and in Japan, the trainees learned that molecular diagnostics and PURE-TB-LAMP are necessary and important technologies for tuberculosis control. Training at a tuberculosis research institute—a cooperating organization—proved fruitful in improving the overall knowledge on tuberculosis testing. In a demonstration test by seven engineers, extremely good results were obtained, such as improving the tuberculosis detection rate by more than 50%. A poster presentation was made at the 49th Union World Conference on Lung Health (The Union).

Left: Training at UTH | Top and bottom right: PURE-TB-LAMP operator training

Contributing to tuberculosis control in Zambia

By being selected for the Project of Global Extension of Medical Technologies for three years, the POCT project has effectively promoted the spread of PURE-TB-LAMP in Zambia. The memorandum of understanding signed at the 7th Tokyo International Conference on African Development in 2019 stipulated the agreement to adopt PURE-TB-LAMP and was approved by the Technical Working Group. This agreement is to be included in the tuberculosis diagnostic guidelines and national strategic plan. Further, we will focus on training engineers to expand the inspection system continuously. Talented technicians among the trainees in the first and the second fiscal years were designated as local PURE-TB-LAMP trainers. In the FY 2020 project, despite the impact of COVID-19, PURE-TB-LAMP was introduced to 14 facilities in medically underpopulated areas through remote guidance from Japan and local trainers, and 32 engineers were trained.

Furthermore, PURE-TB-LAMP was installed in 20 facilities in Zambia in FY 2018–2020. In the FY 2021 project, 10 facilities will be added. Thus, highly sensitive tuberculosis testing will be installed at 30 facilities. Additionally, in February 2022, the PURE-TB-LAMP Training Center was opened in CDL as a base for disseminating PURE-TB-LAMP, facilitating medical technology transfer in Zambia. PURE-TB-LAMP has been demonstrated to yield a higher tuberculosis detection rate compared with microscopy. It is expected that morbidity will decrease owing to improved tuberculosis detection rates in the future.

(Cooperation: Keiko Watanabe, Eiken Chemical Co., Ltd.)

[Country] Republic of Zambia **[Project name]** "Expanding program of diagnostics for tuberculosis using PURE-TB-LAMP in the Republic of Zambia" (2017–2021) **[Implementing body]** Eiken Chemical Co., Ltd., https://www.eiken.co.jp/en/

Establishing a system for testing and treating sleep disorders

| Mongolia | Center for Sleep Medicine, Ehime University Hospital

Photo: Trainees practicing polysomnography using a head model at the Polysomnography Hands-on Seminar in Mongolia

Start of sleep medicine project

In Mongolia, the number of patients with sleep disorders, mainly sleep apnea syndrome (SAS), is increasing as lifestyle habits have become more westernized in recent years. Polysomnography (PSG) is necessary for diagnosing sleep disorders, and implementing this test requires examination and interpretation techniques as well as the appropriate equipment.

In 2019, Ehime University started the Human Resource Development and System Development Project in the Field of Sleep Medicine in response to Mongolia's strong desire to launch sleep medicine. Based on the experience of the introduction and development of sleep medicine in Japan in the 1990s, the university intended to build a sleep medicine clinical system and develop the required human resources. It also aimed to introduce Japanese sleep diagnosis and treatment technology and medical equipment to the country. The treatment of SAS, which is closely related to lifestyle-related diseases, such as cardiovascular disease, respiratory disease, and diabetes, is an important field for the healthy life expectancy of Mongolian people.

CPAP demonstration at the Mongolian Academy of Medical Sciences SAS workshop

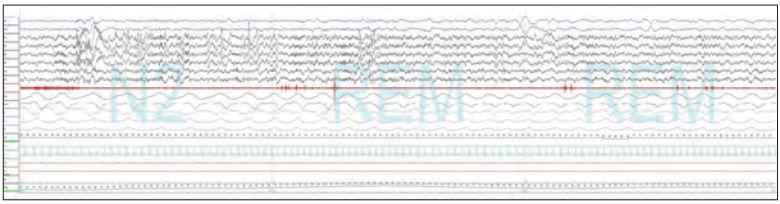
Mongolian Neurology Society hands-on seminar

Fostering human resources to create a sleep medicine clinical system

The project proceeded smoothly with the cooperation of organizations such as the Mongolian Academy of Medical Sciences and Mongolian Neurology Society. At the SAS workshop for medical academy members, those involved in the project gave a lecture on SAS examination and treatment for doctors. Further, training was conducted for neurologists and laboratory technologists in the country in addition to on-the-job training at the Ehime University Hospital Center for Sleep Medicine.

The first sleep center in Mongolia was established at the General Hospital for State Special Servants, where the doctors and technicians trained in Japan work. With this core facility, training could be conducted more effectively. Additionally, under the Japan International Cooperation Agency project, support was provided for the start-up of PSG at the Mongolia–Japan Teaching Hospital, and its reach was expanded.

Owing to the spread of COVID-19, after the training in January 2020, it became impossible to conduct on-site training; hence, training had to be conducted online. During the final on-site training in 2020, hands-on training—a major goal of the project—could not be implemented. Therefore, regular online training and seminars were conducted through the Mongolian Neurology Society and the local sleep center. In the online training, efforts were made to create video content, study booklets, study sleep test record sheets, and other materials to enable effective study.



Study sleep test recording sheet (width 120 cm)

Left: Wearing electrodes and sensors during PSG training at Mongolia–Japan Teaching Hospital
Top right: Lecture on sleep disorders for neurologists
Bottom right: Commentary on sleep test cases during practical training at Mongolia's first sleep center

Potential of sleep medicine spreading in Central Asia

In Mongolia, most of the patients with sleep disorders, especially SAS, have not been diagnosed, confirming the high need for medical care. At the first sleep center in Mongolia, more than 200 patients were diagnosed in a short period, and we successfully introduced continuous positive airway pressure therapy (CPAP), a treatment device. Further, the smooth introduction of PSG, including electroencephalogram measurement, was made possible by neurologists. Subsequently, the project disseminated knowledge about effective development methods for sleep medicine that targets sleep disorders in general.

Even when travel was impossible owing to COVID-19, we realized the potential of providing training to a wide range of participants by promoting online training using videos and teaching materials. Through the activities of the project, the clinical system for SAS was improved. Nonetheless, further training is needed to deal with various other sleep disorders. Online training has been successful, but it has limitations. Improvement in the COVID-19 situation will allow the project to resume its activities locally. Additionally, many countries in Central Asia need sleep medicine. Ehime University will continue to work to expand sleep medicine to more countries.

(Cooperation: Yasunori Oka, Center for Sleep Medicine, Ehime University Hospital)

[Implementing country] Mongolia **[Project name]** "Development of human resources for clinical sleep medicine" (2019) "Development of human resources and medical system for clinical sleep medicine in Mongolia" (2020, 2021) **[Implementing body]** National University Corporation Ehime University, https://www.ehime-u.ac.jp

Popularizing hearing tests and hearing aids for people with hearing problems

| Vietnam | Rion Co., Ltd.

Photo: Trainees observing a surgery during a short-term study tour in Japan

Urgent need for early detection of hearing loss

Since Rion, a hearing-aid manufacturer, launched Japan's first mass-produced hearing aid in 1948, it has developed various hearing aids using its own technology, including the world's first waterproof, digital, and cartilage conduction hearing aids. The company has also developed hearing-test equipment needed in clinical settings and group hearing-aid systems used in schools and places where many people gather. The company is working to build a system for hearing tests and hearing-aid fittings in Vietnam by utilizing their technical capabilities and knowhow.

Compared with Japan, hearing-test equipment are not widespread in Vietnam, leading to delays in discovering and dealing with hearing loss. There are concerns that hearing may deteriorate and that hearing aids may not be properly adjusted. In response to this issue, Rion worked with local public hospitals to establish a system for conducting appropriate hearing tests and hearing-aid adjustments. Thus, the company is attempting to spread the use of hearing tests and hearing aids and train local experts and technicians.

The company signed a memorandum of understanding with Bach Mai Hospital in Hanoi in 2014. For three years, from 2016, the company has established a system at the Vietnam–Japan Audiology Center, which was set up in the hospital, where medical staff can provide services from hearing tests to hearing aids. Since then, in cooperation with Hue Central

Lecture at Hue Central Hospital

Hospital in central Vietnam, Ho Chi Minh City, and Ho Chi Minh City Ear, Nose, & Throat Hospital, the company has established a system for conducting hearing tests and selling hearing aids.

A project to impart skills for hearing tests and hearing-aid fittings

After these activities, local hospitals asked for continued cooperation, and the company started A Spread of Fitting Technology for Hearing Aids & Promotion of Diagnosis Equipment under the Project of Global Extension of Medical Technologies in FY 2019. The project provided educational opportunities for training Vietnamese doctors, laboratory technicians, and nurses as specialists in hearing diagnosis and testing. Hearing loss can now be detected early at the hospital, and appropriate hearing-aid prescriptions and after-sales follow-up can be performed.

During the training, Rion and the medical staff of the otolaryngology department of the NCGM hospital worked together to explain the necessity of hearing tests and the importance of hearing-aid fitting to local doctors and nurses. In FY 2019, three short-term study tours in Japan, 40-day long-term training, and a local seminar at Hue Central Hospital were held. From FY 2020, owing to the impact of the COVID-19 pandemic, travel between Japan and Vietnam was restricted, leading to significant changes in the content of the implementation. The company created a video material that summarizes the procedure from diagnosis to inspection and treatment and then held an online seminar. Through explanations by Japanese experts, the trainees learned the necessity of hearing tests, the usefulness of hearing aids, and the importance of proper hearing-aid fitting. The trainees who attended the training praised it as a good opportunity to understand the basics and mechanisms of hearing tests and hearing-aid fittings.

Above: Commemorative photo after the online seminar | Left: Preparing for a lecture at Hue Central Hospital | Right: Trainees and Japanese experts who have completed long-term training

Not stopping to create a system to support people with hearing loss even during the COVID-19 pandemic

Even during the COVID-19 pandemic, the company has continued to create a system to support people with hearing problems in Vietnam without stopping technical support through training. It is expected that the knowledge and medical techniques learned will spread throughout the region, centering on the hospitals that have built cooperative relations through project activities.

Rion believes that the value of this project is not in merely promoting the spread of medical equipment but in its potential to encourage collaboration among medical institutions and exchange technology—from examinations and diagnoses to after-sales follow-up—using the equipment. While utilizing these efforts to expand its business, the company will continue to conduct activities to deliver comfortable hearing and the joy of hearing to the world and realize its corporate philosophy of “contributing to people, society, and the world.”

(Cooperation: Takehiro Isobe / Tadayuki Watabe / Akira Hayashi, Rion Co., Ltd.)

[Country] Socialist Republic of Vietnam **[Project name]** “Spread of fitting technology for hearing aids and promotion of diagnosis equipment” (2019, 2020, 2021) **[Implementing body]** Rion Co., Ltd., https://www.rion.co.jp

Spreading endoscopy and laparoscopy technology to save patients with gastrointestinal cancer

| Brazil | Kochi University

Photo: Training at Kochi Medical School Hospital (2018)

A system to systematically observe and treat the gastrointestinal tract is necessary

Endoscopy and colonoscopy are technology developed in Japan, and the transfer of this technology can significantly contribute to medical care globally. In Brazil, increasing number of physicians and surgeons have interest in endoscopic diagnosis and treatment, but systematic observation of the gastrointestinal tract, which is commonly performed in Japan, is rarely done there. Surgical operations are not as specialized as it is in Japan; Brazilian surgeons are using laparoscopic techniques to general surgical operations on various organs. In response to the situation in Brazil, Kochi Medical School (KMS) has created a base that can differentiate treatment according to each organ. Experts at KMS identified the need to train endoscopists who have proficiency in early diagnosis of diseases, which can be treated with minimal invasive surgery.

When signing a memorandum of understanding on academic, scientific, and cultural cooperation with the Federal University of Mato Grosso do Sul (UFMS) in Brazil in March 2012, KMS took initiative to provide technical support in medicine in response to UFMS's requests for cooperation in diagnosis and treatment using endoscopes. In addition, a similar request from the director of the Mato Grosso do Sul State Department of Health prompted KMS to dispatch medical staff and accepting trainees since 2016.

The UFMS Medical Hospital uses endoscopic technology but unsystematically. However, a doctor who participated in the KMS training "Spreading endoscopy and laparoscopy technology to save

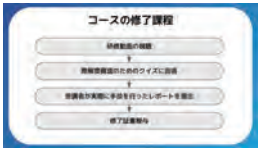
patients with gastrointestinal cancer" in 2018 successfully performed endoscopic submucosal dissection for the first time in the State during the local training in 2019. As the basic techniques for laparoscopic surgery are not yet stable, Kochi University has established an endoscopic and minimally invasive surgery center within UFMS and is preparing a training system.

Projects for human resource development for improving endoscopic diagnosis and treatment techniques

Based on these achievements, KMS participated in the Project of Global Extension of Medical Technologies in 2020. It is working on Technical Training in Endoscopic and Laparoscopic Procedures in Pantanal, Brazil, to develop human resources and improve endoscopic diagnosis and treatment techniques at Mato Grosso do Sul in Brazil. The project aims for the following: the establishment of a basic educational system for endoscopic diagnosticians, therapeutic physicians, and laparoscopic surgeons in the state; the development of guidance on the effective use of allied health professionals (medical staff other than doctors and nurses); contributions to improving the cure rate of gastrointestinal cancer.

As the COVID-19 epidemic continues, it is difficult to conduct training locally and in Japan. Therefore, KMS devised a program that delivers video content; thus, participants need only the internet to improve their skills. For endoscopic diagnoses, guidance is provided for the insertion and observation of an endoscope to ensure that a systematic diagnosis can be made. For medical endoscopic treatments, KMS faculties instructed staff on advanced endoscopic treatment techniques, such as endoscopic submucosal dissection for doctors who have already mastered basic endoscopic techniques. Additionally, in surgical endoscopic treatment, KMS faculties made it possible to learn through observation of a standard patient's surgery performed by a supervising doctor. The content of the online course has evolved to meet local needs through repeated feedback from trainees.

Training in Brazil (2018)



Left: Surgical observation during training in Brazil (2018) | Upper right: Online lecture | Middle right: Completion process of the online course | Bottom right: The training was introduced in a local newspaper.

Skills improvement with the benefits of distance learning

Many trainees could deepen their understanding of educational material provided through the online course, which the COVID-19 pandemic urged KMS to introduce, as it has the advantage of repeated viewings. Some trainees have video-recorded their surgeries and submitted cases.

Regarding the division of roles among local doctors, the extent to which endoscopists perform invasive treatment differs from that in Japan. However, it is necessary to change the status quo of advanced cancer being the main treatment target in Brazil by improving the technique of systematic observation of the surface of the gastrointestinal tract. By solidifying the basics through training, many early-stage cancers that are targets for internal endoscopic treatment and surgical laparoscopic minimally invasive surgery will be discovered.

KMS will continue to work with the state and federal governments while adhering to the country's medical policy. The objective is to contribute to communicating Japanese—style endoscopy, procedures, and minimally invasive surgery and the development of gastrointestinal examination, early detection/early treatment, and endoscopic technology as a measure against leading causes of death in Brazil. KMS will continue developing Japanese medical equipment and technology as a package and its efforts to spread endoscopy technology not limited to the gastrointestinal tract.

(Cooperation: Narufumi Suganuma, Kochi University)

[Country] Federative Republic of Brazil **[Project name]** "Technical training in endoscopic and laparoscopic procedures in Pantanal, Brazil" (2020, 2021) **[Implementing body]** Kochi University, http://www.kochi-u.ac.jp

Conveying water-quality management technology to improve the quality of dialysis treatment

| Mongolia | Japanese Society for Technology of Blood Purification

Photo: Hands-on seminar

Urgent need to purify dialysis fluids

In 2006, Japan installed more than 100,000 dialysis machines in 3,985 dialysis facilities. Conversely, Mongolia had only one dialysis facility and only four dialysis machines that could be used. Then, Mongolia revised its health insurance system to allow anyone to receive dialysis. By 2020, Mongolia had 49 facilities and 265 dialysis machines across all provinces. However, it lacks an equipment management system and guidelines for the management of dialysate used for treatment. As such, the cleanliness of dialysate varies among facilities. Indeed, occasional cases have been reported where treatment could not be performed under a favorable environment. In addition to doctors and nurses, engineers and technicians who specialize in the maintenance of medical equipment require a dramatic improvement in skills in the correct methods.

The Japanese Society for Technology of Blood Purification utilizes the knowhow cultivated through activities aimed at improving dialysate purification and dialysis technology in Southeast Asia. Since 2016, based at the Central Military Hospital, the Society has co-sponsored seminars to improve dialysis treatment techniques for dialysis facilities throughout Mongolia. Since FY 2020, the Society has been participating in the Project of Global Extension of Medical Technologies and working on a project to support the improvement of dialysis equipment management technology and formulation of a standard of fluids for hemodialysis to improve dialysis treatment technology.

Left: Guidance on water-quality measurement at a hospital in Ulaanbaatar | Right: Fourth Joint Seminar (held online)

Aiming for local self-sufficiency without relying on support

Similar to low- and middle-income countries in Southeast Asia, Mongolia has expensive medical equipment donated by many countries and organizations to major hospitals. However, most of these hospitals cannot maximize the original specifications even if they are brand new. If proper maintenance is not ensured, the equipment will deteriorate over the years and eventually become unusable. Moreover, the equipment may become unusable owing to the difficulty in procuring the parts necessary for maintenance.

The project focuses on human resource development. For maximizing the capabilities of the dialysis machines in Mongolia, advanced medical care can be made sustainable by conducting training from the basics—rather than applying them—and improving the skills of local medical staff. The medical staff in Mongolia are extremely diligent and highly motivated, and the educational lectures given by Japanese experts often exceeded the scheduled time limit owing to question-and-answer sessions. The Japanese teaching staff also reaffirmed the "obvious things" in Japan from their questions and learned considerably, which has led to the improvement of their clinical skills in Japan.

Increase in training participants even during the COVID-19 pandemic

In 2020, owing to the COVID-19 pandemic, the project could not conduct local training or accept trainees to Japan. However, with the introduction of online training, medical workers in rural areas who originally could not attend because the distance to the capital Ulaanbaatar was too far could receive training without traveling. Many medical professionals from across Mongolia could participate in the online training. The number of participants did not decrease even during the lockdowns that the government implemented to prevent the medical system from collapsing. Meanwhile, equipment maintenance training was difficult to implement. The specifications of the same dialysis equipment are different in Japan

Hands-on seminar

and Mongolia in various respects, and problems that cannot occur in Japan often occur owing to differences in parts supply systems. This is because it is difficult to explain such cases online, and this will remain a problem in the future.

Toward the formulation of a standard of fluids for hemodialysis

The Japanese Society for Technology of Blood Purification transported water-quality testing equipment to Mongolia in 2021 and completed water quality testing for all dialysis facilities in Mongolia while providing online testing technology guidance. In Mongolia, which has an environment where the temperature reaches-40 °C in winter, making it difficult for bacteria to grow, there are many facilities with better dialysis solution water quality compared with Southeast Asian countries. It is important to formulate guidelines for water-quality management to improve the quality of dialysis treatment. To maintain and manage purified dialysis fluids, the Society highlighted the need to make the following a commonly recognized point among medical institutions nationwide: “reviewing the cleaning method, such as performing daily water-quality measurements and intensive cleaning of equipment when the water quality falls below the action level stipulated in the standards (or guidelines).” The Society will support the formulation and dissemination of the standards for water-quality management suitable for Mongolia while continuing to elucidate the current situation to improve the level of dialysis treatment in Mongolia.

Project Story

Mongolian medical staff often take Japanese peers to ger (mobile dwellings) in the grasslands on the outskirts of the city to welcome them. Vodka is always served on these occasions. The toast is called “Togtooy.” When people shout “Togtooy,” the shot is drunk in one gulp. Mongolian people are strong drinkers; it is important not to be overwhelmed by their pace.

(Cooperation: Hirokazu Matsubara / Kenichi Kokubo, Japanese Society for Technology of Blood Purification)

[Country] Mongolia **[Project name]** “Technical training on hemodialysis and water-quality management and support for survey and making guidelines for water-quality management in Mongolia” (2020) **[Implementing body]** Japanese Society for Technology of Blood Purification, https://jstb.jp

Improving patient prognosis with dialysis water purification technology

| Indonesia | St. Mary's Hospital

Photo: Training participants observing a demonstration of endotoxin measurement

While the number of chronic dialysis patients is increasing, the quality of treatment is not improving

In Indonesia, hemodialysis treatment for patients with chronic renal failure is rapidly spreading owing to improvements in the medical environment and the adoption of dialysis treatment in the universal health insurance system. The potential demand for dialysis treatment is high: the number of patients requiring chronic maintenance dialysis was 30,554 in 2015, which then increased to 52,835 in 2016, 77,892 in 2017, and 132,142[*1] in 2018—quadrupling in only four years. However, according to a nephrologist in the country, the average life expectancy after the introduction of dialysis is only about three years, and the treatment results are not good. Approximately 80% of dialysis machines are made in Japan, and there is a big difference in treatment results from those in Japan. The reasons may be the delay in training dialysis nurses, shortage of dialysis machines and equipment management systems, and delay in water-quality control technology for dialysis water, which is important in dialysis medicine. Moreover, Indonesia has no medical qualification equivalent to the clinical engineer in Japan. These engineers maintain dialysis and other medical equipment but are not allowed to come into contact with patients. If many dialysis engineers understood the significance of purifying of product water and learned to put it into practice, then the quality of dialysis treatment could be significantly improved.

2019 Dialysate Purification Seminar

Trainees undergoing live bacteria culture test training at St. Mary's Hospital

A project to develop human resources who can manage dialysis equipment

In April 2017, St. Mary's Hospital in Kurume City, Fukuoka Prefecture, signed a memorandum of understanding for medical technology cooperation at the request of Airlangga University Hospital in Surabaya, the second largest city in Indonesia. For two years, from FY 2018, St. Mary's Hospital conducted a project called Building a Medical Equipment Management System Beginning with Dialysis in Indonesia, under the Project of Global Extension of Medical Technologies, and conducted training in Japan for four dialysis engineers from Airlangga University Hospital.

Product water is used for dissolving/diluting powders of concentrated dialysate agent, and cleaning and disinfecting the piping and equipment. After raw water is processed using methods such as filtration, ion exchange, adsorption, and reverse osmosis, it is managed below the standard value. Japan's control standard values for chemical substances and biological pollutants are strict standards that conform to ISO13959 and ISO23500. The training aimed to explain the purpose of using product water and the treatment method of raw water, as well as be able to perform the acquired skills.

Through the project, the Airlangga University Hospital could build a system that can continue to improve the quality of product water (to meet Japanese water quality standards). Interviews with nurses in dialysis units have confirmed the reduction in indefinite complaints, mainly fever, chills, and fatigue. After completing the first year of training, the trainees achieved the standard for water quality and are continuing their training in maintenance and management. St. Mary's Hospital also organized a two-day seminar at Airlangga University Hospital for the second year in a row to spread awareness on the importance of dialysate purification. In both years, the seminar had more than 100 participants, indicating the high interest of engineers and related parties.

Delivering training from Japan

In January 2020, Airlangga University Hospital asked St. Mary's Hospital for support for a plan, saying "we would like to open a training center for dialysis engineers within the university as

Above: Discussion with engineers and nurses from Airlangga University
Bottom: State of live distribution of training

a pilot project. In the future, we will develop it into a center that covers all medical equipment in hospitals and contribute to improving the quality of medical care in the East Java region as a training facility for engineers who will play a role similar to Japanese clinical engineers." However, this plan was postponed because the university hospital was designated as a core hospital for COVID-19 countermeasures.

Under such circumstances, St. Mary's Hospital created teaching materials (e.g., videos, slides, and documents) for dialysate purification training with engineers, based on the materials prepared for the training thus far. For two months, from November to December 2021, St. Mary's Hospital held online training for dialysis engineers in the East Java region. Using on-demand lectures and self-study materials, St. Mary's Hospital also conducted live online training for two days. The number of registered participants exceeded 160, and 100 people participated in the live online training, which exceeded expectations.

Toward improving the quality of community medical care

The online training was conducted after widely recruiting participants in the East Java region. With the support of a professional organization for medical engineers[*2], approximately 20% of the participants were registered from medical institutions from multiple regions and islands outside East Java.

Indonesia continues to face challenges in many aspects of medical care. Japan's medical experience is helping the country, which is striving to change the status quo. Moreover, face-to-face training is again required. In Indonesia, which comprises many islands, conducting training online helps enable the development of medical personnel not based in urban areas. St. Mary's Hospital aims to expand the content of online training and create a training system as good as face-to-face training. These efforts reflect the unchanging feeling of St. Mary's Hospital, "without building trust, trust in medical devices will not last long. Even if it is a small collaboration, we would like to work on something that can contribute to a good relationship with Indonesia."

*1: Indonesian Renal Registry 2018 (reference: 344,640 chronic dialysis patients in Japan as of the end of 2019)
*2: Ikatan Elektromedis Indonesia

(Cooperation: Nobuyuki Ono, St. Mary's Hospital)

[Implementing country] Republic of Indonesia **[Project name]** "Building a Management System for Dialysis Equipment in Indonesia" (2018, 2019, 2020) "Building a Management System for Medical Equipment in Indonesia"(2021) **[Implementing body]** Our Lady of the Snow Social Medical Corporation, St. Mary's Hospital, https://www.st-mary-med.or.jp

Delivering temperature-controlled blood products to hospitals

| Myanmar | Daido Industries, Inc.

Photo: Shooting teaching material video at University of Nursing, Yangon

Need for a system to store and supply safe blood products

Daido Industries, a manufacturer of equipment for storing blood products for transfusion, is working on a project for the delivery of temperature-controlled and safe blood products in Myanmar.

In Myanmar, universal health coverage has been launched as a policy, and the country's Ministry of Health and Sports has implemented free blood transfusions since 2015 and other blood projects. The number of blood donors is increasing, but that of advanced surgeries and treatments is also increasing along with rapid economic development. In advanced medical care, blood transfusions are often required as adjuvant therapy, and the demand for both quality and quantity of safe blood is rapidly increasing. However, hospital blood banks are the mainstream of the country's blood business, and the blood testing systems at individual hospitals are weak. Blood testing and the supply of blood products require equipment that can be properly temperature-controlled and medical staff with specialized knowledge and skills.

Therefore, since FY 2016, Daido Industries has been participating in a project implemented by the NCGM as a partner company and has been working to strengthen blood transfusion and hematopoietic stem cell transplantation medicine in Myanmar. At the time, Myanmar only had the National Blood Center, which mainly supplied blood products to Yangon General Hospital. Other hospitals used blood products supplied by blood centers and blood donations and transfusions from in-hospital blood banks. The National Blood Center had testing equipment for

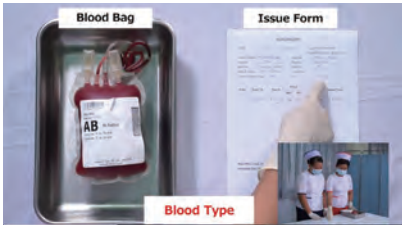
nucleic acid amplification tests, which was equivalent to Japan's, but the in-hospital blood bank was not fully equipped with the appropriate test system. The NCGM project continued until FY 2019, and Daido Industries also continued to cooperate in activities aimed at strengthening the inspection system. In 2018, an application was made to the Japan International Cooperation Agency (JICA)'s Small and Medium Enterprise Overseas Expansion Support Dissemination Demonstration Project. For a year-and-a-half, efforts were made toward the construction of storage and transport systems for blood products at blood centers and hospitals. These efforts were the introduction of platelet product storage (shaking constant temperature bath) and transportation equipment, donation of red blood cell storage equipment (blood refrigerator), and human resource development.

A project to deliver temperature-controlled blood products

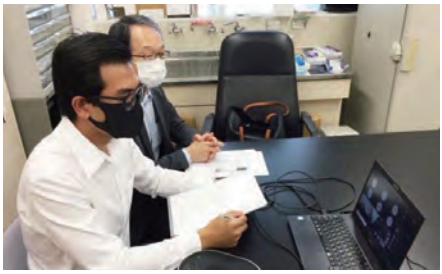
In 2019, within Myanmar's Ministry of Health and Sports, an initiative was launched to expand the number of national blood centers from one in Yangon to nine nationwide to supply hospitals with safe blood products. However, the transfusion specialist system had only been launched; there were only eight specialists. Training medical staff for blood transfusion and strengthening the blood transfusion management system at hospitals were urgent issues.

Under such circumstances, Daido Industries received a request from the Myanmar government to support the development of adequate human resources for the next-generation blood and transfusion medicine based on the relations of trust the company had built with their counterparts, the National Blood Center, Ministry of Health and Sports, and the Japanese blood and transfusion industries. From FY 2020, Daido Industries newly launched The Project for Sustainable Safer Blood Transfusion in Myanmar in collaboration with the Bureau of International Health Cooperation of the NCGM, Osaka Medical and Pharmaceutical and University Hospital Blood Transfusion Laboratory , and experts that included former Japanese Red Cross employees.

The project team met with the National Blood Center in Yangon in February 2020, before the COVID-19 epidemic in Myanmar. At the time, there was the assumption that travel and arrival in Japan would be possible around summer. Plans were made for technical guidance training based on the standard blood transfusion procedures by the Bureau of International Health Cooperation, technical guidance training in cooperation with Osaka Medical and Pharmaceutical and University Hospital Blood Transfusion Laboratory, and holding a symposium. However, the



Left: Myanmar medical staff reproduces the standard procedure and creates an educational video
Right: Hearing requests for training content from local medical staff




Left: Online overview of blood transfusion medicine in Japan | Right: Online/mobile phone hybrid conference

impact of the COVID-19 pandemic forced changes in plans; training and symposiums were held online using teaching material videos.

For the teaching material video, the project recorded Burmese audio for the benefit of the trainees. The English translation was translated to Burmese by a translator, and a Myanmar engineer working for Daido Industries played an active role in checking the language. For example, the English word “serious” was translated as “resulting in death.” Engineers asked experts whether an adverse event resulted in death, and the engineers received an explanation in Japanese and English on the concept of “serious.” Thus, the translation used suitable terms by accounting for the detailed nuances.

Additionally, in the video production for the local technical guidance training for the standard blood transfusion procedure, experts first made an image video in Japan. They showed it to local doctors and nurses, conveyed the content, and filmed various scenes reproduced at the local nursing college to complete the project.

Shortly before the online symposium was held, a coup d'état occurred. Internet services were cut off the day before the symposium. Myanmar engineers made phone calls to various offices and managed to connect to the mobile phone of the director of the National Blood Center, and the meeting was held as an online/mobile phone hybrid conference.

Toward improving the standard of blood transfusion medical care in Myanmar

Responding flexibly to unexpected events such as the COVID-19 pandemic and coups, the one-year project completed the training of 32 multidisciplinary medical staff (17 doctors, 13 nurses, and 2 technicians). In Myanmar, where smartphones are widely used, it is possible to repeat learning on demand. Daido Industries believes that combining on-site training and live streaming to deliver the live discussion of Japanese experts will provide effective training opportunities. To improve the standard of blood transfusion medical care in Myanmar, Daido Industries hopes that the system built in the Yangon area will be expanded to other cities. It is expected that the COVID-19 pandemic will be over at the earliest and that the company can work with the National Blood Center again.

(Cooperation: Shinsuke Ohgiri, Daido Industries, Inc.)

[Implementing country] Republic of the Union of Myanmar **[Project name]** “The project for sustainable safer blood transfusion in Myanmar” (2021) **[Implementing body]** Daido Industries, Inc., http://www.daido-ind.co.jp

Enhancing hospital quality management and patient safety in Vietnam during COVID-19 pandemic

| Vietnam | Bureau of International Health Cooperation, NCGM

Photo: Online training at Vinh Phuc General Hospital

Working with the Ministry of Health Vietnam to Enhancing hospital quality management and patient safety

Medical malpractice occurs in every country and can lead to serious accidents and even death. In Japan, the national government, academic societies, professional organizations, and other bodies have established medical safety systems at hospitals against the backdrop of serious medical accidents that occurred in 1999 and the 2000s. In Vietnam, medical accidents have been reported in the newspaper and social media in recent years, and people's interest in medical safety is increasing. The Vietnamese government has established laws on medical safety, and hospital audits are conducted annually. Under such circumstances, the Bureau of International Health Cooperation of the NCGM is working on the Project for Improving Patient Safety Through Strengthening In-hospital Systems in Vietnam.

For seven years since its predecessor project started in 2015, the project has been providing Vietnamese medical staff with training to improve hospital quality management skills and the quality and safety of medical care. Thus far, 44 trainees from across Vietnam have visited NCGM and learned through lectures and active discussions. The trainees continue to keep in touch even after the training ended. The NCGM also supports the Medical Quality and Patient Safety Forum in Vietnam and they share many case studies with other Vietnamese hospitals.

Activities during the COVID-19 pandemic

In 2020, the Japanese experts could not contact the counterparts in Vietnam because of the COVID-19 pandemic. The planned flight was also canceled, and the Japanese experts had to reconsider next steps.

In August 2020, owing to the successful government-led early response—Vietnam had been recognized worldwide as a country that had succeeded in controlling the COVID-19- our project had restarted. With online discussion between the Ministry of Health Vietnam and NCGM, the Vietnamese side requested to strengthen the capacity of the quality control department, which is responsible for the quality and safety of medical care at hospitals including COVID-19 measures.

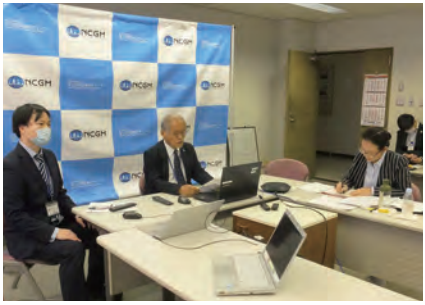
Online training between Vietnam and Japan

The Vinh Phuc Hospital in Vietnam is famous for its success in controlling COVID-19. The director and medical staff of Vinh Phuc General Hospital, who had been trainees of the project, isolated the village and coordinated with the hospital. Therefore, the Bureau of International Health Cooperation collaborated with Vinh Phuc General Hospital to hold an online training session that included knowledge sharing on COVID-19. Utilizing an online conference system, more participants from various locations could access the training.

39 medical staff working in hospital quality management department and clinical department from 19 hospitals attended the venue at Vinh Phuc Province, and 197 participants attended lectures online. Some attendees listened to the lectures on their smartphones, while others participated in classes as a continuing training program at hospitals.

The trainees discussed the introduction of the surgical safety checklist, 5S (Sort, Set, Shine, Standardize, Sustain), in-hospital networks, how to implement medical safety training, and formulate action plans.

An online training venue in Vietnam



Japanese experts delivering lectures from Japan

Delivering online training to remote areas

In the FY 2021 project, four Vietnamese model hospitals were nominated for training in 2020. With themes such as “Correct patient identification,” “Surgery safety (WHO surgical safety checklist),” and “Safe blood transfusion,” training is being conducted for doctors, nurses, and pharmacists in the clinical departments of the hospitals. The online training has been delivered to 924 people (as of December 23, 2021).

Human resource development utilizing the online solution is becoming more widespread than ever in the face of the health crisis of the COVID-19 pandemic. Although some aspects are difficult to implement online, such as practical training and deep discussion with much participants, the project team from the Bureau of International Health Cooperation of the NCGM continues the project for many medical staff directly across the distance.

(Cooperation: Jun Moriyama / Tomoo Ito / Masahiko Doi / Kaori Seino,
Bureau of International Health Cooperation, NCGM)

[Implementing country] Socialist Republic of Vietnam **[Project name]** “Quality management of healthcare program” (2015) “Strengthening the management capability for quality and safety in healthcare” (2016, 2017) “Strengthening the management capability of nurses for quality and safety in healthcare to accelerate hospital-wide cooperation in Vietnamese hospitals” (2018) “Strengthening the management capability of medical staff for quality and safety in healthcare to accelerate hospital-wide cooperation in Vietnamese hospitals” (2019) “Project for improving patient safety through strengthening in-hospital systems in Vietnam” (2020, 2021) **[Implementing body]** Bureau of International Health Cooperation, NCGM, National Research and Development Agency, https://kyokuhp.ncgm.go.jp/index.html

6 Six tips on the international expansion of medical care in the future

From the good practices of the Project of Global Extension of Medical Technologies, the following indicate the future of the international expansion of medical care, which will be a win–win situation for Japan and its partner countries.

01 Creating a system to nurture people who use medical products

Creating a system for nurturing medical personnel will lead to continuous product sales. As this will take time, manufacturers will consider the use of business plans and funds for multiple fiscal years.

02 Business design for fund acquisition

Companies and medical professionals, and domestic and local staff, will complement one another in collaboration initiatives. Those in charge of overseas expansion strategy, development, and market development should first visit the medical sites of the partner country.

03 Partnering with academic societies

As the institutions responsible for continuing education, such as expert certification, academic societies should seek early involvement in the partner country as a shortcut to creating a framework for human resource development and ensuring continuity.

04 Including a managerial perspective in training contents

High-quality medical services require training, including medical safety, infection control, and quality control. Adding such administrative aspects would make linking guidelines and insurance inclusion easier in the partner country.

05 Establishing a training base

Establishing a training center locally or within a major hospital will serve as a base for training, which is effective for expanding to domestic regions and neighboring countries.

06 Price and maintenance

Japanese products have issues of high prices and strict maintenance. Manufacturers will create opportunities for partners to experience the merits of our products during training by using demonstration machines and samples. The objective is to reduce the maintenance load by narrowing it down to the minimum necessary functions.

Through 234 projects in the seven years since the start of this overarching project, Japanese medical products, technologies, and services have been continuously procured in partner countries and used in medical settings, leading to improved health for many people. The sharing and collaboration with industries, governments, and academia will secure the continuous international development of Japanese medicine that contributes to global health.

Ministry of Health, Labour and Welfare
Fiscal 2022 Projects for Global Extension of Medical Technologies

For inquiries and applications, please visit the website.

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