NCGM
National Center for Global Health and Medicine

First Issue
March 2021

English Edition

TENKAI
PROJECT NEWS *Online*

Bringing Japan's Health Care to the World

A concerted effort by Japan's public and private sectors to promote a new approach to international expansion of health care and international cooperation

Vietnam | Cambodia | Philippines | Zambia | Ghana | Tanzania | Congo | Cameroon | Nigeria | Ethiopia

TENKAI Project News

Contents

Cover photo: Japanese experts teaching oral care skills in an ICU at Bach Mai Hospital, Vietnam (Ms. Yuki Yonehiro, second from the left in the front row)
"Project of Surgical Team approach to Health and Medicine based on Bach Mai Hospital, Vietnam: Perioperative"

Introduction

The National Center for Global Health and Medicine (NCGM) has been implementing the Projects for Global Extension of Medical Technologies (TENKAI Project) since fiscal 2015 with funding from the Ministry of Health, Labour and Welfare. Japan has achieved the world's highest level of healthy life expectancy and health care standards under its universal health insurance system. The project aims to share this experience and knowledge to enhance Japan's credibility in the international community by contributing to the improvement of public health and medical standards in partner countries while promoting the growth of Japan's healthcare sector, transferring medical technologies, and promoting the international deployment of high-quality Japanese pharmaceuticals and medical devices. In so doing, the objective of the project is to bring about a virtuous cycle for both Japan and partner countries.
This project has the following features.

- The project is a new type of international cooperation that is not based on a structure of support from rich countries to poor countries, from supporters to recipients, but on the growth of Japan's medical sector within the project. The products and services made in Japan are superior in many ways, including technology and systems, and have great potential to contribute to the development of the partner countries. Although it is a prerequisite to generate profits, many companies hope to contribute to the creation of a better society through the project, and deployment of products and services as their business will lead to sustainable development and improve medical standards in partner countries. The development of the medical industry will also lead to job creation and education in specialist knowledge and skills.
- The goal of this project is to develop Japanese medical technology and services overseas from the standpoint of both the public and private sectors, together with the Cabinet Secretariat, the Ministry of Internal Affairs and Communications, the Ministry of Economy, Trade and Industry, the Ministry of Health, Labour and Welfare, the Ministry of Foreign Affairs, related ministries and agencies, general organizations, medical institutions, universities and other academic institutions.
- This project takes the form of training to realize its objectives. Based on the health and medical issues of the partner country or region, Japanese experts in social security systems, medical professionals, engineers from healthcare-related industries, and other experts are dispatched to the partner country or provide training in Japan for participants from the partner country. Each year, applications are solicited from a public offering, and more than 30 projects are implemented. The main fields of projects include diagnostic technology (clinical examination, radiology and other diagnostic imaging, endoscopy, cancer diagnosis, etc.), preventive and therapeutic technology (surgery, intensive care, blood transfusions, rehabilitation, dialysis, etc.), medical device management, medical quality and patient safety, health checkups, and regulatory systems for pharmaceuticals and medical devices.
- Since the third year, a project evaluation framework has been introduced to clarify the process of project implementation (process), the immediate results of implementation (outcome), and the expected results in a few years (impact). In this way, the project aims to clearly communicate its results.
- In response to the global outbreak of COVID-19, travel restrictions in Japan and abroad have made it difficult to conduct face-to-face training as in the past. On the other hand, the interest and needs of the international community in the field of health and medicine, whether related to COVID-19 or not, have never been higher. While we have been able to see results of the projects through multi-year implementation, there are some projects that need to think about their exit strategies.

In this issue of the TENKAI Project News, we will introduce the results and activities of the project so far.

Noriko Fujita, Director, Projects for Global Extension of Medical Technologies

Bringing Japan's Health Care to the World

A concerted effort by Japan’s public and private sectors to promote a new approach to international expansion of health care and international cooperation

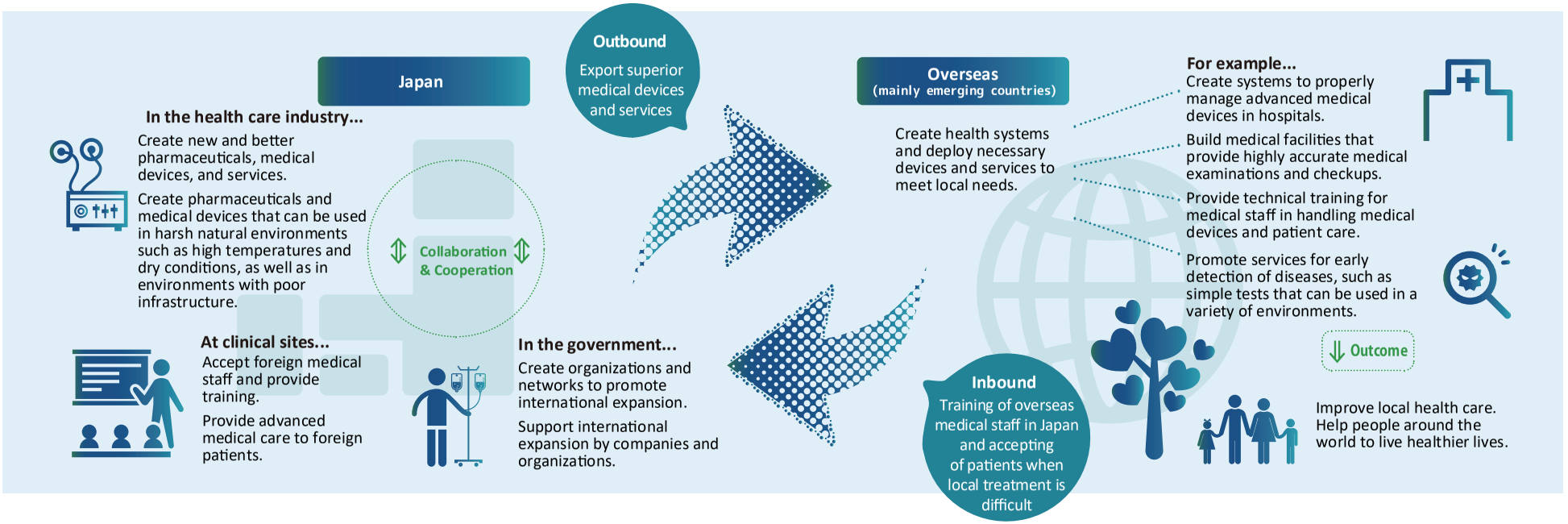
Japan's growth strategy and international expansion of health care are contributing to global health

Japan has one of the world's highest life expectancies and is one of the most advanced countries in the world in terms of health care. This is based on its universal health care system, high-quality pharmaceuticals and medical devices, quality of medical personnel, and the excellent service found at medical institutions, resulting in world-class health care. In recent years, there has been a concerted effort by the public and private sectors to promote the export of the medical industry to overseas countries under the name of “International Expansion of Health Care.” The government, companies, and research institutes are working together to expand Japanese health technologies and services in outbound and inbound markets to strengthen Japan's competitiveness and contribute to addressing global health issues. The international expansion of health care is also reinvigorating international health cooperation activities. Traditionally, assistance in the field of health care for low- and middle-income countries has been provided in the form of bilateral assistance through Official Development Assistance (ODA), multilateral assistance through international organizations, or multi-bi cooperation. With the establishment of the MDGs (Millennium Development Goals) in 2000, Japan began to support low- and middle-income countries as part of its global health efforts, focusing mainly on maternal and child health and infectious disease control, with a view to solving problems on a more global scale. Since 2015, the international community has been working to achieve new goals called the SDGs (Sustainable Development Goals). In the healthcare sector, one of the targets to achieve the goal “Ensure healthy lives and promote well-being for all at all ages” is to achieve “universal health coverage (UHC),” where all people have access to basic health services at a cost they can afford. Japan, which has already achieved UHC through its universal health insurance system, has been working to leverage its experience to expand its health care services internationally, making further contributions to the world by linking this to its own growth strategy. In this way, a new form of international health cooperation has been born, complementing conventional ODA, with the participation of health care-related companies aiming to expand their business overseas (mainly in emerging countries).

Projects for Global Extension of Medical Technologies with a focus on training

The Ministry of Health, Labour and Welfare of Japan launched the “Projects for Global Extension of Medical Technologies” (hereinafter referred to as the “TENKAI Project”) in 2015 to support the international expansion of Japanese health care technology. The National Center for Global Health and Medicine (NCGM) Bureau of International Health Cooperation serves as the secretariat, and several departments including NCGM Center Hospital participate in the projects.

Figure 1: Basic concept of international health care expansion



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

Africa
Federal Democratic Republic of Ethiopia Republic of Ghana
Republic of Cameroon
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

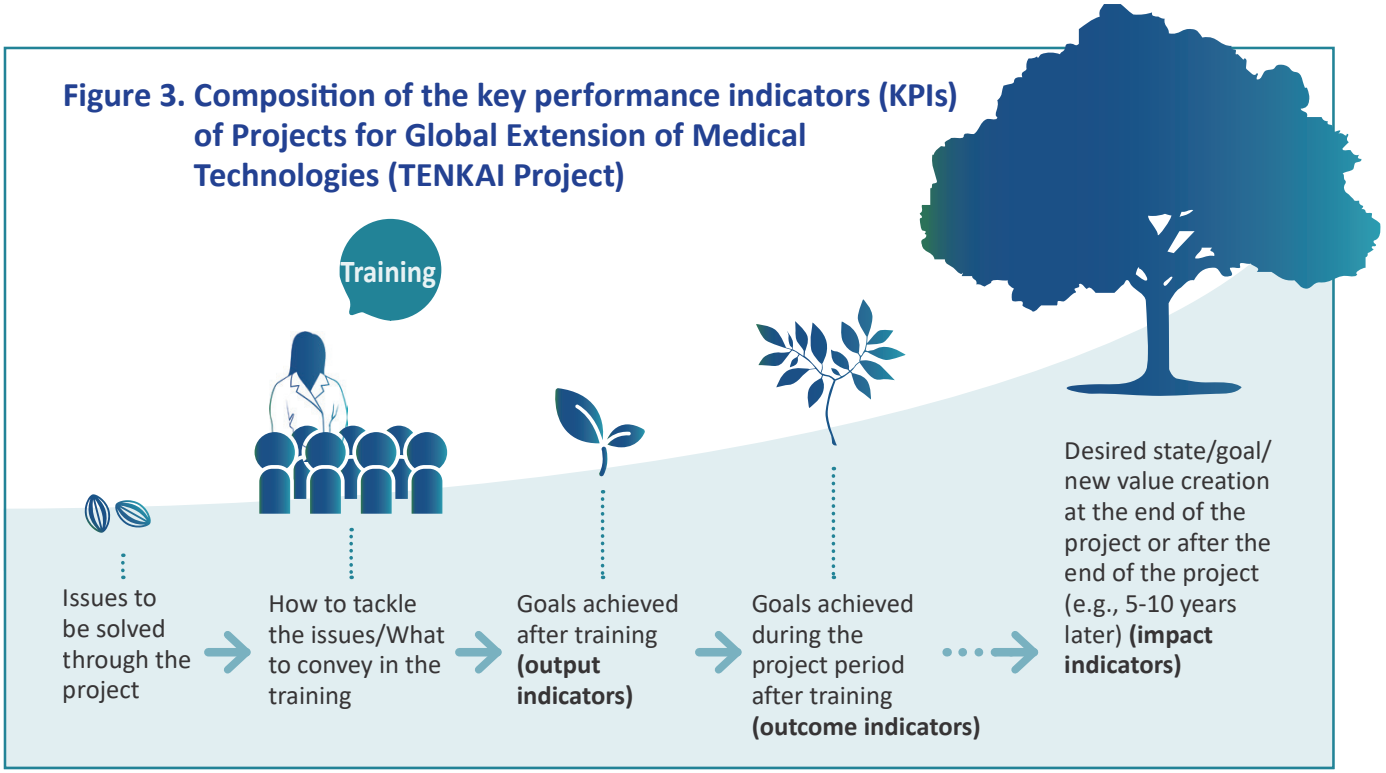
Oceania
Independent State of Papua New Guinea

Figure 2. Partner countries implementing Projects for Global Extension of Medical Technologies (TENKAI Project) from 2015 to 2020

Item / fiscal year	2015	2016	2017	2018	2019	Total
Number of project implementation countries	13	14	17	13	12	69
Number of projects	28	31	31	29	38	157
Number of trainees visiting Japan	242	244	280	247	254	1267
Number of trainees in the implementing country	4740	4539	5209	4137	7509	26134

Table 1. Number of partner countries, projects, and number of training participants in Projects for Global Extension of Medical Technologies (TENKAI Project) from 2015 to 2019

Figure 3. Composition of the key performance indicators (KPIs) of Projects for Global Extension of Medical Technologies (TENKAI Project)



The projects aim to introduce and disseminate Japanese medical technologies, high-quality medicines, medical devices, and health services in a way that suits local needs, and to improve health and medical care issues in the partner country, thereby enhancing Japan's credibility in the international community and creating a virtuous cycle for both Japan and the partner countries. In order to meet the health challenges and needs of the partner countries, medical experts conduct training, introduce Japanese products, and provide technical assistance to address the challenges.

The projects address a wide range of global health issues. In addition to maternal and child health, and infectious diseases such as AIDS, tuberculosis, and malaria, which have been addressed globally in the MDGs, there are a variety of emerging health challenges that many countries are facing, such as aging, cancer, stroke, and other non-communicable diseases.

The themes for solving these issues are also diverse. For example, the themes for solving the above issues include diagnosis and treatment technologies (diagnosis and treatment of cancer, diagnosis and treatment using devices such as bronchoscopes and endoscopes, dysphagia diet and rehabilitation technologies, etc.), hospital administration and management (patient safety, quality medical care, team medicine, etc.), and the systems that support medical technologies (medical device regulatory system, maintenance and management of medical devices, and training of pathologists and nutritionists, etc.). Training is conducted through the dispatch of Japanese experts in medical technology and policy, the acceptance of trainees from the partner country into Japanese medical institutions, and online training between Japanese experts and trainees from the partner countries.

The outcomes of the projects are expressed in terms of improvements in people's health **(Figure 3)**. The indicators are: what is to be achieved after the training **(output indicators)**, what is to be achieved during the project period after the training **(outcome indicators)**, how the health care and health status of the people in the partner country will be improved through the project or after it ends, and what new value will be created **(impact indicators)**.

Debriefing session held at NCGM

Companies and organizations participating in the projects are screened and selected through a yearly open call for proposals, and can receive funding as a commissioned project that will run for about 10 months. Some of the projects that achieve good results in the 10-month project period apply for the next year's project, and there are projects that have been running for multiple years to achieve the impact indicators. The annual activities are presented at a debriefing seminar at the end of each fiscal year, and the results are published in a report.

Impact of 5-year activities on partner countries

As shown in **Table 1**, in 2015, when the project started, 28 projects were implemented in 13 countries, and 242 and 4,740 medical personnel were trained in Japan and the partner countries, respectively. Since then, a total of 157 projects have been implemented in 69 countries over the past five years until the end of fiscal 2019. The number of medical personnel trained in Japan and the partner countries reached 1,267 and 26,134, respectively. In the two years from 2018 to 2019, a total of eight medical technologies were adopted in the national plans or guidelines of the partner countries, and 41 types of medical devices were procured in the partner countries under 16 projects. In Japan too, expertise, and many suggestions and insights obtained from successful projects have been widely disseminated through conferences, documents, and public relations activities.

Of Japan’s international cooperation, the emphasis is placed on ensuring that the technologies become a part of the partner country and develop sustainably by themselves through the work of people in the partner countries even after the project has finished. In the project, even after the completion of the project, the technologies are passed on from the trainees to health care personnel in their institutions, and then to surrounding medical facilities and eventually throughout the country. In fiscal 2020, the sixth year of the project, more than 30 projects have been implemented, creating new value to healthcare in partner countries.

(Chieko Matsubara)

Providing High Quality Medical Care to Stroke Patients in Vietnam by a Team Medicine

Photo: Seminar on early movement and dysphagia held by stroke team at BMH in Vietnam in January 2019

Surgical Team Medicine Project

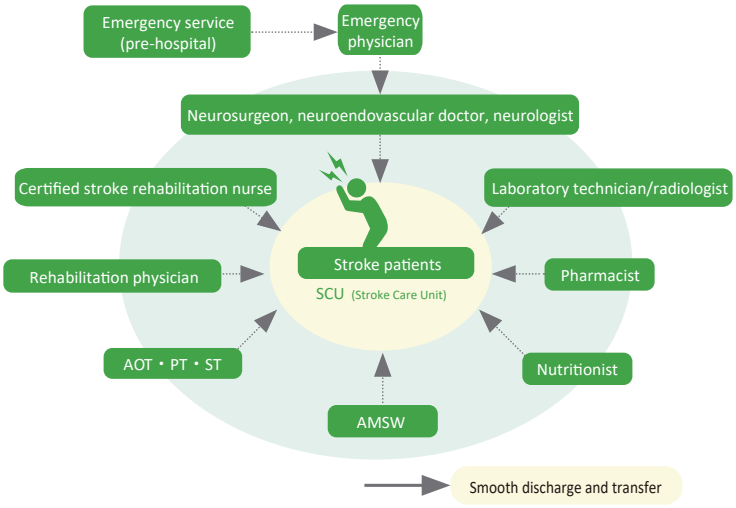
In Vietnam, the number of patients suffering from stroke, one of the non-communicable diseases, is increasing along with the aging of society and the westernization of lifestyles due to the recent economic development. In 2017, about 200,000 people were diagnosed with the disease annually, with about half of them dying, and even if their lives are saved, 90% of patients are left with some kind of permanent disability. In order to improve this situation, Center Hospital of the National Center for Global Health and Medicine (NCGM) has been conducting a surgical team medicine project at Bach Mai Hospital in Vietnam since 2015 to provide high quality medical care and treatment to stroke patients. Along with the advancement of medical care, instead of the traditional approach of having a single physician be the main focus of providing care, team medicine provides medical treatment and care that is tailored to the patient's condition by a team of medical doctors, nurses, pharmacists, dieticians, occupational therapists, physical therapists, speech-language therapists, clinical engineers, and other professionals. The various medical specialists provide safe medical treatment and care tailored to each individual patient, consulting with them and their family from the onset of illness to recovery, complementing the coordination of their highly specialized knowledge and skills in areas such as nutrition, early start of post-operative rehabilitation, and infection control.

BMH is one of the three major national hospitals in Vietnam, located in the capital city of Hanoi, and has a history of more than 100 years since it was established in 1911. It is a huge hospital with 3,100 beds and more than 150,000 inpatients per year. Although it accepts a large number of patients, team medicine is not common. The TENKAI project involves the collaboration of many departments and medical sections of NCGM Center Hospital, including Neurosurgery, Rehabilitation, Nursing, Nutrition Center, Pharmacy (stroke team), Intensive Care Unit, Anesthesiology (perioperative team), and Clinical Engineering (ME team, collaborating on another project from 2020).

In the sixth year of the project, we have been able to provide high quality care with the expectation of early recovery, such as early movement rehabilitation for post-operative neurosurgery patients, and orally administered meals for patients who used to be tube fed due to difficulty in swallowing. Currently, the project is working on improving the level of stroke treatment and care, which is necessary to extend the healthy life span of people in Vietnam. The project members are not only improving surgical treatment techniques, but also simultaneously working as a team on primary stroke prevention and early rehabilitation intervention.

(Tetsuo Hara, Chieko Matsubara)

Team medicine for stroke treatment



Stroke team that supports stroke patients from onset to recovery through team medicine

Neurosurgery Department

Analysis of treatment results and prognosis using databases

Neurosurgeons in Vietnam are few in number and perform a huge number of operations. At BMH, only 10 doctors perform 2,400 surgeries per year (400 cerebral aneurysms and 100 cerebral arteriovenous malformations). The Japanese experts started by establishing a database of stroke patients (subarachnoid hemorrhages and cerebral arteriovenous malformations) in order to understand the situation of patients who underwent surgery in Vietnam. Although the criteria used to enter data into the database differed slightly from doctor to doctor, a large number of ruptured cerebral aneurysms (about 800) were registered in just 18 months.

Training in an operating room

In Vietnam, inpatient and outpatient medical records are kept separately, and even during hospitalization, they are kept separately for each department, such as neurosurgery and rehabilitation. However, the database will be analyzed from the perspective of surgical results and prognosis. It will be used for team medicine, especially in collaboration with nursing and rehabilitation, to not only improve surgical techniques but also to build a system to support stroke patients as a team. The Nursing Department is also creating its own database, and the neurosurgery database will incorporate items from the nursing database that can be shared in the future.

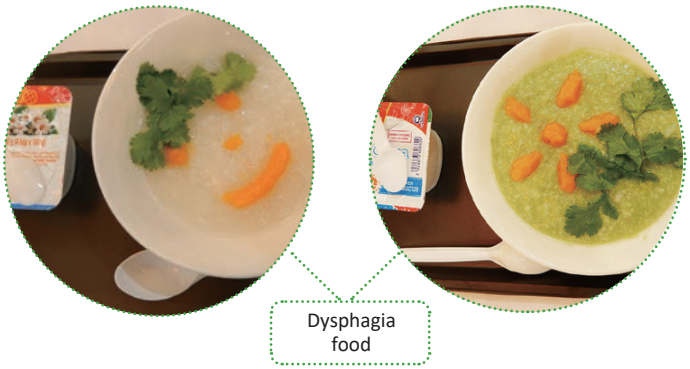
(Tetsuo Hara)

Nutrition Office

Promoting nutritional management by introducing dysphagia food

Nutritional management for stroke patients requires the provision of meals suitable for preventing aspiration pneumonia and enhancing swallowing exercises for dysphagia. However, there was not dysphagia food with thickening agent in Vietnam. At the beginning of the project, there was little recognition of its importance and insufficient knowledge and skills. Therefore, the Japanese experts proposed the introduction of “dysphagia food” with thickening agent that had not existed before, and provided guidance on dysphagia food and how to prepare it. Training sessions and seminars were held in Japan and Vietnam. A large number of medical staff and companies attended training in Vietnam. As a result, the number of dysphagia food provided and the number of nutrition consultations increased year by year.

Dysphagia food is divided into four stages so that the patient can train to eat from lower stage to upper stage. The provision of dysphagia food began in November 2017, initially about two meals per month, but the number gradually increased, and in fiscal 2018, a total of about 9,000 meals were provided. In fiscal 2019, a total of 18,172 meals were provided, doubling the number of meals served, and nutritional guidance was provided to all patients who were offered dysphagia food and their families.



Some patients who were unable to eat due to swallowing difficulties have been pleased to find that their oral intake has increased through training by eating the dysphagia food. In addition, there is a possibility that the dysphagia food will be covered by insurance, and if this happens, it will mean that dysphagia food is recognized as having a clear therapeutic effect. It takes a lot of time to understand each other due to the language barrier between Japan and Vietnam, but the sincerity and enthusiasm of the people involved in nutrition management at BMH have been a great achievement.

(Yuichi Egashira, Chika Tanahashi)

From top: The kitchen at Bach Mai Hospital | Training in the NCGM kitchen | Tasting of easy-to-swallow food

From left: A meeting to discuss the role of nursing in team medicine | Dysphagia food training | Skills check before administering to patients

Nursing Department

Nurses Support Patients' Rehabilitation

Vietnam does not yet have a universal health insurance system and there is a shortage of rehabilitation therapists, so stroke patients do not always have access to rehabilitation. At present, only nurses can provide rehabilitation to patients at the neurosurgery ward. Japanese experts in nursing have trained the nurses at BMH in rehabilitation nursing that enables stroke patients to early movement. Nurses in Vietnam, who are even busier than in Japan, have the strong intention of, "If the patient needs it, we must do it! We have to provide family guidance!" and started the "nurse-assisted movement."

During the training in Japan, the Vietnamese nurses studied the significance of movement, procedures and monitoring. Together with Japanese nurses, they conducted a series of bedside rehabilitation practices and developed a protocol that could be applied to patients in Vietnam. In fiscal 2018, they wrote a "report on the practice of nurse-assisted movement." Since then, we have continued to revise the protocol to ensure further patient safety. They are continuing their activities with the aim that "early movement," which had previously been "zero" in Vietnam, and rehabilitation nursing will be practiced for patients other than stroke patients in the future as part of the nursing services provided at BMH.

(Keiko Horiuchi)

Project Story

With multidisciplinary team medicine playing an increasingly important role in improving medical skills and knowledge through training, it is inevitable to ask the question, "What is nursing?" In my opinion, nursing is "working to make the person in front of you happy," and it changes depending on the needs of the person in front of you.

During the training, nurses from Vietnam and Japan discussed "the role of nurses in team medicine". Even though there are differences in culture and social security, and the content of work varies, our goal is to improve the quality of life (QOL) of stroke patients and their families by practicing rehabilitation nursing.

Through this project, the medical needs of stroke patients in Vietnam have become clear, and the various professions have started to take action. However, if we try to implement all the actions, the work will be concentrated on the ward nurses. Vietnamese nurses are very passionate and if there is a need, they will do their best. I feel the difficulty in carrying out the project, wondering if we are not overwhelming the Vietnamese nurses, who have their hands full even at present, and depriving them of the time to feel the joy of nursing. The challenge for the future is to reintegrate the specialized care and provide care that makes patients happy through team medicine.

Pharmacy Department

Efforts for Appropriate Use of Drugs

At BMH, when administering drugs through a tube, the patient's family crushed and prepared the drugs, and the nurses administered them to the patient. There was no standard for whether or not the drugs could be crushed, and we found out that drugs that should not be crushed were being crushed and administered through a tube. Therefore, NCGM Pharmacy Department conducted a training program to ensure the safety and efficacy of drugs administered through tubes. The trainees learned about case interventions by ward pharmacists using the “List of drugs that can be crushed or suspended in tube administration at NCGM.” As a result, a “List of drugs that should not be crushed in tube administration at BMH” was developed by the pharmacists. The list was also posted on the website (http://canhgiacduoc.org.vn/Home.aspx), which Vietnamese pharmacists visit to gather information. In the neurosurgery ward, the simple suspension method introduced in the training course was newly introduced and is being practiced. In addition, the knowledge acquired during the training has been disseminated through lectures held by the trained pharmacists to the staff of the Emergency Department and Poison Control Department (about 30 people) and 380 nursing students. At present, the project team is continuing its activities to provide drug guidance to patients and their families using drug information sheets, with the aim of further promoting appropriate drug use.

(Hirotake Ohashi)

From top: Pharmacists’ activities in the wards | Tube administration of drugs | Training for appropriate drug use at NCGM

From top: Implementation of simple suspension method | Nurses distributing medicine to patients’ families

Project Story

By visiting BMH and directly understanding the current local situation, we were able to find needs of the patients in the partner country that they themselves were not aware of. By spending time with them, we were able to get to know them and produce results that better met their needs. This is also one of the important aspects of team medicine, where we work with other professionals to solve problems.

I hope that the results of this project will lead to the implementation of appropriate tube administration of drugs in a wide area of Vietnam through the dissemination of various types of information by the pharmacists of BMH.

[Partner country] Socialist Republic of Viet Nam [Project name] “Project for the Development of Human Resources in Clinical Departments Using a Base in Vietnam (Neurosurgery Team, Perioperative/ICU Team, Respiratory Surgery, Respiratory Medicine)” (2016), “Project for the Development of Human Resources in Clinical Departments Using a Base in Vietnam” (2017), “Project of Surgical Team approach to health and Medicine based on Bach Mai Hospital, Vietnam: Stroke Care” (2018, 2019, 2020)

Supporting the Safety of Perioperative Patients in Vietnamese Hospitals

Photo: Lab practice at NCGM Center Hospital

The perioperative team supports safe surgery and early recovery

The Intensive Care Unit (ICU) and Anesthesiology Department at Center Hospital of the National Center for Global Health and Medicine (NCGM) have been working on TENKAI project to support patient safety in the perioperative period by collaborating in a perioperative team based at Bach Mai Hospital (BMH) in Vietnam since 2016. The perioperative period refers to the period from pre-operation to post-operation recovery. In order for patients to undergo surgery more safely and recover well, it is important to manage the perioperative period appropriately according to each patient's condition. Managing the general condition of the patient, pain control, and infection control throughout the entire perioperative period requires cooperation not only between the surgeon and nurse in charge, but also between multiple departments and professions, including the Anesthesiology Department, ICUs, Pharmacy Department, and Clinical Engineering Department. The comprehensive team medicine makes it possible to increase patient safety.

BMH carries out 45 to 60 surgeries a day, and the surgical ICUs see 40 patients simultaneously, yet this kind of team medicine was not widely applied. Before the start of the project, the wards were crowded with patients, and there were many points that needed to be improved, such as hygiene management and risk of patient misidentification. In particular, the ICU was facing the problem that many patients who were put on ventilators after surgery suffered from ventilator-associated pneumonia (VAP). Therefore, the project focused on disseminating the World Health Organization's (WHO) Surgical Safety Checklist, VAP prevention, and postoperative pain control, with associated efforts to reduce perioperative infectious complications and improve safety management.

Intensive Care Unit (ICU)

Protecting patients on ventilators from VAP

A ventilator is a medical device that sustains life by assisting a patient's breathing until recovery from respiratory failure through treatment. However, use of ventilators requires appropriate management and nursing care because of associated risks such as medical complications. One such risk is VAP, a nosocomial pneumonia that occurs after 48 hours of ventilation with a mortality rate of 20-60%. In many low- and middle-income countries, there is a need to address the high rate of VAP in ICUs.

To prevent VAP, it is necessary to understand the many risks of ventilator management and develop preventive measures. Since the risks are interrelated, previous studies have shown that bundling multiple measures together is an effective strategy for VAP prevention. Therefore, the project team held a workshop to help the staff at BMH understand these issues and developed a 10-item VAP prevention care bundle that could be feasible at the hospital.

From top: Discussion between ICU doctors and nurses | VAP prevention care bundle poster

VAP prevention care bundles are SDGs for ICUs

Implementing a VAP prevention care bundle for only a short period of time is insufficient; it must be sustained by all the nurses who care for patients every day. Experts from NCGM and BMH shared the importance of prevention and promoted the VAP prevention care bundles as "Sustainable Development Goals (SDGs) for the ICU" by creating a poster and displaying it in the ICUs and nurse stations. The poster was very popular and a number of other wards expressed their desire to display it in their wards.

In the beginning, the VAP incidence rate did not decrease despite the high compliance rate for each item. However, by reviewing oral care, purchasing of equipment and materials supported by BMH, the VAP incidence rate, which had been difficult to reduce in the past, came down. The director of BMH was very impressed with these results, and decided to introduce the VAP prevention care bundles to 14 ICUs at BMH.

Over the three years since the project began, the bonds between the Japanese and Vietnamese experts have gradually deepened through the many activities carried out in Vietnam and Japan. Sharing successful experiences is one of the most important factors in making a project successful. With these bonds, the project will continue to expand the VAP prevention care bundles throughout BMH and Vietnam.

(Tatsuya Okamoto, Yuki Yonehiro, Chieko Matsubara)

Anesthesiology Department

Safe surgery and protecting patients from postoperative pain and risk of infectious complications

At the beginning of the project, BMH staff took for granted that patients would feel pain after surgery, and little consideration was given to pain control and other measures. Pressure ulcers (bedsores) also occurred frequently. In addition, medical staff cared for many patients at the same time in cramped conditions, family members brought patients meals and helped them with the toilet, and hand disinfection was not implemented thoroughly. Inadequate hand disinfection is also a factor that increases the incidence of VAP.
In order to move forward with the project, the team started by inviting the Vice Chief of Anesthesiology and the ICU Chief of BMH to NCGM to observe the perioperative management, especially infection control and safety management, and share understanding of the issues and approaches for improvement. Since fiscal 2017, Japanese experts have visited to BMH in June, two to four Vietnamese doctors and nurses have received training at NCGM in the fall, and Japanese experts have conducted follow-up training in Vietnam again in December or January.
During the training, the trainees observed the Anesthesiology Department, operating rooms, and ICUs of NCGM Center Hospital, as well as the operating rooms and ICUs of several other hospitals. They learned that safety and hygiene management is thoroughly implemented in all hospitals in Japan. They also learned how to control patients' postoperative pain.

From top: Trainees learning at NCGM Center Hospital | Lecture on VAP prevention

The trainees said that they learned a lot from the hygiene management methods and VAP prevention care bundles conducted at NCGM. In addition, after observing how nurses in Japan carry their own rubbing alcohol for frequent hand disinfection, they have started to considerer the introduction of this practice in Vietnam as well.

As part of the project, the Surgical Safety Checklist promoted by WHO worldwide was translated into Vietnamese and introduced in BMH. This has made it possible to check patients entering or leaving operating rooms during surgery and to check for any objects left inside the patient's body. The administration of antibiotics to patients prior to surgery has also become widely practiced, and postoperative infectious complications have been reduced.

In terms of pain control, Japanese experts provided hands-on guidance on ultrasound-guided nerve block techniques. In addition, in response to strong requests from nurses who had learned about postoperative pain control in Japan, the project team supported to develop a pain control manual based on drugs used in Vietnam, and nurses began to introduce pain control to patients after surgery. The initiative began with a simplified version of the manual and the project team plans to improve it in the future.

NCGM will continue to support through the project so that it can further build on the cross-departmental team medicine that started at BMH. The project team aims to spread perioperative care to other areas in Vietnam in addition to BMH, focusing on patient safety and infection control.

(Yasuhiro Maehara)

Top: WHO Surgical Safety Checklist practiced in an operating room | From bottom left: Patient identification by wristband | Notice for infection control

Project Story

Throughout our five years of project activities, we have always been welcomed and treated in a friendly manner by the staff at BMH.

They have been very proactive in our discussions, and meetings often go beyond the scheduled finishing time. I realized that they are highly motivated to promote better medical treatment and care.

We started the project without knowing what we would be able to do, but we have gradually started to see results. With the cooperation of many people, the project has been expanded to include the entire BMH, and we are starting to achieve great results. I would like to thank everyone who has cooperated in this project.

[Partner country] Socialist Republic of Viet Nam [Project name]: "Project for the Development of Human Resources in Clinical Departments Using a Base in Vietnam (Neurosurgery Team, Perioperative/ICU Team, Respiratory Surgery, Respiratory Medicine)" (2016) "Project for the Development of Human Resources in Clinical Departments Using a Base in Vietnam" (2017) "Project of Surgical Team approach to health and Medicine based on Bach Mai Hospital, Vietnam : Perioperative" (2018, 2019, 2020)

Building Medical Device Management System for Hospitals in Vietnam

Photo: YouTube Live streaming of the inspection practice

A system to ensure the long and safe use of medical devices

In Japan, clinical engineers are nationally-licensed medical professionals who are responsible for the proper operation, maintenance, and inspection of medical devices, and support safe and smooth medical treatment as members of medical teams. Departments and teams led by clinical engineers centrally manage medical devices and play an important role from planning replacement plans that take into account the useful life and state of repair of devices to hospital management. On the other hand, since there is no national license for clinical engineers in Vietnam, nurses have to manage ventilators in the ICU, so there have been many issues with the medical device management system. Staff from the Clinical Engineering Department at the Center Hospital of the National Center for Global Health and Medicine (NCGM) started to work for NCGM's surgical team medicine project team based at Bach Mai Hospital (BMH) since 2017. In 2020, in addition to BMH, we also collaborate with Hue Central Hospital in the central region, Cho Ray Hospital in the south, the National Medical Device Research Institute, and the Ministry of Health to systematize the medical device management system by providing information on the Japanese clinical engineer system and hospital evaluation criteria including medical device management as well as on-site management of medical devices. At the beginning of the TENKAI project, when Japanese experts visited BMH, they found that although there was a department that managed medical devices, even very old models were not disposed of and were stacked up in a messy manner. There was no system for centralized management with a management ledger, and there were insufficient records of when the devices were purchased and how many times they had been repaired. Furthermore, the department was asked to repair all kinds of device other than medical devices, and was put in charge of gas piping, boilers, air conditioners, and electrical wiring in the hospital.

From top: Cluttered work desk | Piles of documents

Fostering people to take on the role of clinical engineers

The project invited people in charge of device management to Japan as trainees and provided them with training on medical device management at NCGM, university hospitals, and medical device manufacturers. Through the practical training, the trainees learned that maintenance and a system to monitor the management status of each piece of device are important for the long and safe use of medical devices, and discussed issues and improvements at BMH. After returning to Vietnam, the trainees conducted a training course in the hospital to disseminate what they had learned and to promote understanding of medical device management.
Later, the Japanese experts visited Vietnam again as a follow-up to check the status of improvement. They found that the corridors that had been filled with medical devices had been cleaned up and the piles of medical devices were neatly organized on shelves. Each piece of device was numbered and managed in a list on the computer. The state of repair was also recorded in detail. In addition, Japanese experts co-hosted a "Japan-Vietnam Medical Device Management Seminar" with BMH to teach the importance of medical device management, barcode management methods, ventilator handling, and dialysis techniques. As many as 120 people participated in the seminar, including not only the staff of BMH but also those from neighboring hospitals, the Ministry of Health, research institutes, universities, and medical equipment technology colleges.

Never stop learning with online training

In 2020, although experts could not travel abroad because of the prevalence of COVID-19 worldwide, technical assistance continued to be provided despite the difficulty in direct human interaction. The project goal is to raise the level of medical device management in Vietnam, to spread the technology from the northern part of the country to hospitals in the central and southern parts, and to disseminate it throughout Vietnam. This year, the project has switched to an online system, where lectures and practical training are provided by video so that trainees can learn at their preferred time, and real-time training is provided via live streaming. This has made it possible for trainees from all over Vietnam to participate in the program, and has also produced the effect of more than 150 trainees learning at the same time.

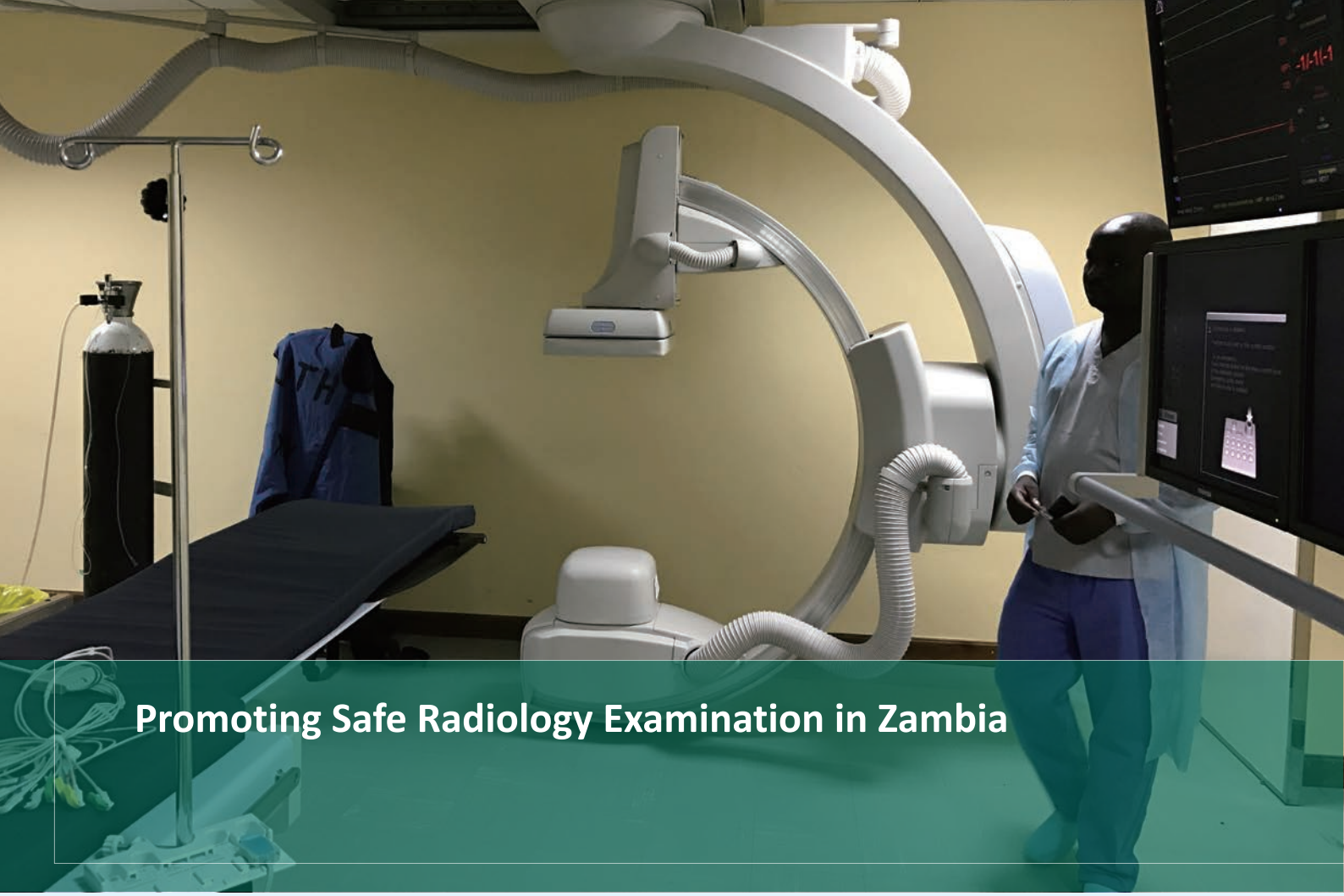
(Shigeru Hosaka)

From top: Training in Japan (October 2018) | Well-organized syringe pumps in the ICU | Introduction of barcode management

Project Story

During my stay in Vietnam, I saw a beautiful and fantastic sun every morning from my hotel, but I was told that it looked beautiful because of dust and photochemical smog. I am looking forward to seeing the power of young people in the hustle and bustle of the city become like a sun to brighten the future of Vietnam and progress the country. I am sure that even if COVID-19 changes the training methods, they will still produce good results.

[Partner country] Socialist Republic of Viet Nam [Project name] "Project for the Development of Human Resources in Clinical Departments Using a Base in Vietnam" (2017), "Project of Surgical Team approach to health and Medicine based on Bach Mai Hospital, Vietnam: ME (2018, 2019)," and "The Project of Medical Equipment Management for 3 Core Hospitals in Vietnam" (2020).



Promoting Safe Radiology Examination in Zambia

Photo: Japan-made angiography system owned by the University Teaching Hospital of Zambia

Zambia needs to develop human resources skilled in using medical device for examinations and treatment

In the Republic of Zambia, where economic development is advancing, the number of lifestyle-related diseases such as myocardial infarction is increasing rapidly, as are traffic accidents due to the spread of automobiles. However, the current situation is that the environment for cardiovascular care and treatment is not yet sufficiently developed. To improve this situation, the country needs not only the necessary medical devices, but also human resources who can use them for examination and treatment. The Radiology Department at Center Hospital of the National Center for Global Health and Medicine (NCGM) has been working together with Japanese medical device manufacturers since fiscal 2018 on TENKAI project to promote safe CT examinations and cardiac catheterization and treatment techniques in Zambia.

The first coronary CT scan in Zambia was successful

In fiscal 2018, one doctor and four radiologic technologists were invited to Japan for training, and in fiscal 2019, one doctor, one radiologic technologist, and one nurse were invited. They learned a variety of topics, including the basic operation of the installed CT, how to read and diagnose images, how to store image data, and how to treat patients undergoing examinations. Japanese experts also went to Zambia to support the activities of the trainees back in their home country. One of the major achievements was that the trainees successfully performed the first coronary CT scan in Zambia under the supervision of Japanese experts. The event was reported on TV and in newspapers in Zambia and drew a great response.

From top left: Japan-made angiography system | Project team receiving TV coverage | Trainees performing coronary stent treatment | Trainees receiving solo interviews (cardiologist)

Treating patients with coronary stents successfully using a Japanese product

Another major achievement of the project was the successful use of coronary stent treatment by Zambian medical staff alone. Until then, patients had needed to travel to South Africa to receive this treatment. It was also the first time that a stent made in Japan, which had never been used in Zambia, was used. The success of the project was widely covered by the mass media, and one of the trainees, a cardiologist, met the Vice President after the TV broadcast and received his words of appreciation.

What is a stent? ....
A stent is a medical device used to widen tubular parts of the human body (blood vessels, trachea, esophagus, duodenum, colon, biliary tract, etc.) from the inside.

Exchanges continue even after the project ends

Once the training was over, Japanese experts and trainees got to know each other as colleagues and had a good time together. On weekends, we would go to safari parks together or hold parties for dancing. We shared many memories and developed good relationships, and even after the project is over, there is ongoing exchange between the Japanese experts and the trainees.

(Yuzuru Kono)

Project Story

One of our trainees went to university to further his knowledge. I believe that this is due to the fact that he learned the importance of improving his medical skills and knowledge through the training.

In Africa, if you can't dance well, you may feel ashamed. If you are planning to go to Africa, I highly recommend that you practice your dance skills!

[Partner country] Republic of Zambia [Project name] “The project for strengthening operations of image diagnostic using Computed Tomography device and intervention using Angiography device at University of Teaching Hospital: Zambia” (2018, 2019)

People who Support the TENKAI Project

<Myanmar>

In the Projects for Global Extension of Medical Technologies (TENKAI Project), there are various tasks such as budget management and procurement of necessary materials, and many staff members support its operation. In some cases, administrative staff members are responsible for these types of administrative tasks in the partner country and accompany experts on country visits to support their activities. The following is an introduction to the activities of the administrative staff in the partner countries.

Project Treasurer

In 2018, 2019, and 2020, I traveled to Myanmar as a member of the project team to help organize the “Blood Transfusion Safety Improvement Seminars” held as part of “The project to support the improvement of blood transfusion safety” in Myanmar. About 100 people attended the seminars from all over Myanmar. The main role of the on-site administrative staff was to be the project's treasurer in the partner country. We were in charge of accounting, payment, and currency exchange but we faced difficulties that were unique to the partner country. For example, 10,000 JPY in the local currency (Burmese kyat (Ks)) is approximately 130,000 Ks, so if you exchange ten 10,000 JPY bills, you will get 130 10,0000 Ks bills. In Myanmar, 10,000 Ks bills are avoided because they are not easy to use, and payment must be made in 1000 Ks or 5000 Ks bills. Therefore, if you exchange your money into 1000 Ks bills in anticipation of this local context, you will have 1300 bills. You will be working surrounded by bills and looking like a rich person, but you will also feel very nervous if you have to manage so many bills. Also, because of the large number of bills to be handled, discrepancies in cash balances due to miscounting are more likely to occur. In order to prevent this from happening, we separate the cash for the next day's payment into envelopes the day before. Once, we found that the cash balances did not match after about 100 envelopes had been sealed, and had to open all the envelopes and recheck them. Even then, the on-site staff always informed us if they found a mistake in sealing the bills.

Bundles of cash

Sealing cash in envelopes for payment

What you see when you go to the partner country

Preparation of Materials

It is very challenging to prepare documents in my poor English that meet the accounting system standards of National Center for Global Health and Medicine (NCGM), while taking into account the local culture. In Myanmar, fractions of the invoiced amount are often rounded down to the nearest 1,000 Ks, so if you just total up the amounts on the receipts, the cash balance at the end of the day will not be quite right. The administrative staff keep a record of these roundings as well as payments made during stays, and efficiently prepare the necessary accounting documents.

Receipts written in the local language need to be translated into English or Japanese to be able to understand the details of the statement, so settling overseas business trips can be very time-consuming. Accompanying someone on an overseas business trip, you can see things that you couldn't see when you were working in Japan handling receipts. For example, in our project in Myanmar, we often receive receipts for baked goods with similar names from the same store. This is because Myanmar, which had a British colonial past, has a culture of tea time and tea cakes are allowed as meeting expenses. I also understood from seeing the many receipts for bottled water, which are always available on the desks in Myanmar where the tap water cannot be drunk.

For the administrative staff, projects that are only visible in Japan in the form of reports and accounting slips become much more understandable when we actually travel to the partner country. It also allows us to see the activities of the experts up close. In the project to support the improvement of blood transfusion safety, I saw the experts instructing Myanmarese trainees on how to determine their blood type, and the trainees listening intently and intently. This made me feel that something is steadily moving forward in the field of healthcare in Myanmar. Such experiences and understanding lead to ingenuity in our work in Japan and support the smooth operation of the project in the partner country.

(Shoichiro Negishi)

Developing Cambodian Human Resources in Pathology to Strengthen the Pathological Diagnosis System

Photo: Laboratory technician training held in Japan

The number of chronic diseases is increasing, but there is a shortage of human resources in pathology

In recent years, the number of chronic diseases such as cancer has been increasing in many low- and middle-income countries due to the aging population and changes in lifestyles, but human resources in pathology are often lacking for reliable disease diagnosis. In Cambodia as of 2017, there were only three public hospitals with pathology laboratories for a population of about 14 million, with only four pathologists and 15 pathology technicians. It is evident how human resources are lacking in Cambodia by comparing with a situation in Tokyo, where there are about 350 pathologists for a population of 13 million. In diagnosing cancer, for example, a clinician first takes a whole or a part of the suspected lesion (specimen) from the patient's body, and a laboratory technician carries out preparation of specimens, such as fixation, embedding, sectioning and staining enabling microscopic examination. The pathologist then uses a microscope to observe cancer cells, their morphology, degree of invasion, etc., and then finally makes a diagnosis. Strengthening this process of pathological diagnosis will lead to early detection of diseases and appropriate treatment. In Cambodia, however, it is difficult for patients to have their diseases diagnosed, and even if a diagnosis is made, it is a very lengthy process.

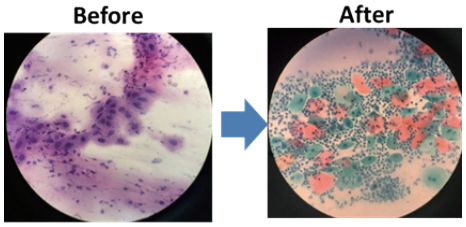
Developing the existing human resources in pathology

In an effort to change this situation, the National Center for Global Health and Medicine (NCGM) has been working on a technical assistance project (TENKAI Project) to increase the number of high-quality pathology personnel and strengthen the pathology diagnosis system in Cambodia in collaboration with the Japanese Society of Clinical Cytology and the Japanese Society of Histopathologic Technology since 2017. The project started with the training of existing pathologists and pathology technicians working at public hospitals in Cambodia. Japanese experts traveled on-site to give lectures and practical training. Trainees were also invited to Japan for activities such as training at universities and hospitals, and making presentations at academic conferences. The project also supported clinical pathology conferences in Cambodia for pathologists and clinicians to have discussions on actual cases to improve multi-departmental communication and the quality of medical care.

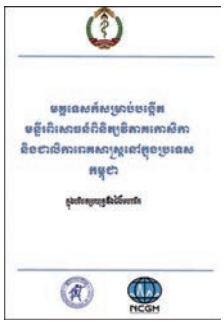
Fostering future human resources in pathology

Since 2019, the project team has been working with the Faculty of Medicine and Technical School for Medical care at the University of Health Science to review and improve pre- and post-graduate education, and to support the establishment of new pathology laboratories which can accommodate the human resources fostered throughout this project. Aiming to increase pathology laboratories in the future, a guide for establishing pathology laboratories was developed and approved by the Cambodian Ministry of Health in 2020. In 2020, while the project team was unable to travel on-site due to COVID-19, online conference system was used for training of six pathology residents and 60 laboratory technicians. A sense of belonging was highly considered during the online sessions. The training was fruitful because the trainees actively asked questions over the screen. Until the time when face-to-face training becomes possible again, we will expand the contents of online training and provide more interactive programs including practical training.

(Hiroyuki Kiyohara)



From top: Practical training at a pathology laboratory in Cambodia | Changes in Papanicolaou staining before and after the training | Clinical pathology conference | Online training for pathology residents



Guide for establishing pathology laboratories

[Partner country] Kingdom of Cambodia [Project name] “Human Resource and System Developments for Cervical Cancer Early Diagnosis and Treatment in Cambodia” (2015), “Human Resource and System Developments for Cervical Cancer Early Diagnosis and Treatment” (2016), “Human Resource and System Developments for Cervical Cancer Screening” (2017), “Pathological capacity and system improvement for cervical cancer screening” (2018, 2019), “Strengthening educational system for pathologists and pathology technicians in Cambodia” (2020)

Creating a System to Increase the Smiles of Children and Adolescents in the Philippines

Photo: In front of the Faculty of Medicine, University of the Philippines Manila

Aiming to increase the number of medical personnel who can treat children's and adolescents' mental health

The Child and Adolescent Psychiatry Department at Kohnodai Hospital, National Center for Global Health and Medicine (NCGM) was established in 1948 to treat mental disorders in children from infants to junior high school students. Even in Japan, where the birthrate is declining and the population is aging, interest in children's mental health, including abuse, school refusal and Hikikomori (social withdrawal), suicide, and developmental disorders, is increasing every year. Japan's medical care system and treatment techniques are at an international standard that can provide appropriate treatment while taking into consideration the human rights of patients.

The Philippines is a country with a young population, with 37% under the age of 14. With the enactment of the Mental Health Act in 2019, mental disorders will be covered by the national health insurance system, and children's and adolescents' mental health is an important issue in the country. Although 16% of children and adolescents have some kind of mental illness, only 2% of all children and adolescents are admitted to inpatient facilities. Therefore, the Child and Adolescent Psychiatry Department at Kohnodai Hospital, in collaboration with the Philippine Society for Child and Adolescent Psychiatry, the Philippine Psychiatric Association, the Philippine Mental Health Association, the Philippine General Hospital, and the National Center for Mental Health, holds workshops on community mental health related to diagnostic techniques, pharmacotherapy, psychosocial treatment, and disaster psychiatry for child and adolescent-specific mental disorders such as autism and engages in activities under the TENKAI Project to improve the clinical capabilities of the regions in the country. This activity is part of a project to improve the capacity of local communities in the Philippines to diagnose mental health problems in children and adolescents. In particular, the project team is focusing on reducing the time from onset of illness to consultation, which is a prognostic factor for mental illness.

Japan and the Philippines Learning Together Workshops

The fiscal 2019 workshops were held for professionals such as doctors, clinical psychologists, social workers, nurses, and public health nurses. Japanese experts, together with the Dean of the College of Public Health at the University of the Philippines Manila, explained the current status of child and adolescent psychiatry in both countries. The lectures provided an opportunity to learn about a wide range of topics related to child and adolescent mental health, including diagnosis and pharmacotherapy, abuse, disaster psychiatry, child and adolescent welfare, medical treatment systems at university hospitals, training systems, and the work of co-medical staff. In addition, participants were introduced to facilities for children's and adolescents' mental health in the Philippines and related facilities in Japan (child guidance centers, boards of education, schools, etc.). The Japanese experts summarized the previous training sessions and the recommendations of experts from both countries and presented them in a paper (Estrada et al., 2020; Usami et al., 2018) (Usami, 2019).

Bringing Smiles to Children and Adolescents Across Southeast Asia

It is hoped that through the training, literacy on children's and adolescents' mental health will spread in the Philippines. While solving the shortage of specialized medical personnel is a major issue, the project is also working with local academic societies to create a system in which those who have received training become trainers and conduct "in country training" (dissemination courses). In addition, the improvement of the project's capacity to treat child and adolescent mental health will lead to appropriate assessments and therapeutic interventions for the rapidly increasing number of mental disorders in children and adolescents, while taking into consideration the human rights of patients. In the Philippines, where the number of mental disorders is on the rise due to the increasing population of children and adolescents, introducing the system that has been established in Japan is an opportunity to introduce quality diagnostic and treatment techniques. The project is being carried out with a vision of expanding Japanese child and adolescent mental health treatment techniques to other Southeast Asian countries.

(Masahide Usami)

From top: In front of the Philippine General Hospital | Lecture in Manila | Lecture in Japan | Inspection of an education center | Inspection of a child care support unit

[Partner country] Republic of the Philippines [Project name] "Project to reinforce medical treatment, care, and the promotion of mental health among children and adolescents: the Philippines" (2018, 2019)

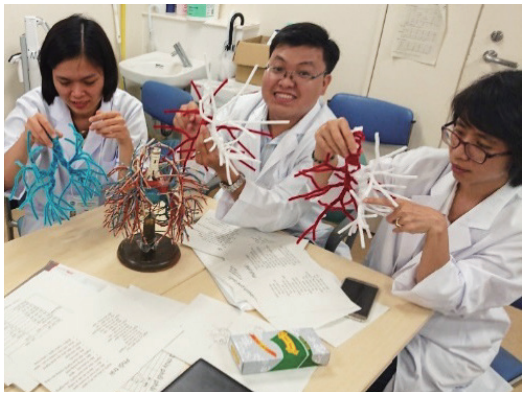
[Paper Link (in Japanese)]
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6299512/pdf/12919_2018_Article_159.pdf
https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7398056/pdf/12919_2020_Article_194.pdf
https://ci.nii.ac.jp/naid/40022070332

Advancing Vietnam's Respiratory Care Standard One Step Ahead with Bronchoscopy

Photo: Practical training at Bach Mai Hospital in Hanoi

Boosting the standard of respiratory care in Vietnam

Currently, medical needs in Vietnam are rapidly expanding, ranging from infectious diseases and acute conditions to lifestyle-related diseases and cancer. When one considers chronic respiratory diseases, pneumonia, and tuberculosis in addition to the very common lung cancer, the Respiratory Medicine Department is one of the most common departments dealing with diseases that cause death in Vietnam. In particular, bronchoscopy is an important essential technology for the diagnosis of these respiratory diseases, ranging from lung cancer, infectious diseases such as pneumonia and pulmonary tuberculosis, and interstitial pneumonia. However, due to the lack of device and learning opportunities for bronchoscopy, Vietnam has lagged behind the global standard in terms of this technology.
Since 2017, the Respiratory Medicine Department at the Center Hospital of the National Center for Global Health and Medicine (NCGM) has been working on TENKAI project to improve the technical skills in bronchoscopy, a field in which Japan leads the world, with a doctor who can give direct instruction in Vietnamese. The project aims to share awareness of the issues while consulting with doctors from the Viet Nam Respiratory Society, raise the standard of diagnosis and treatment using bronchoscopy and, in turn, raise the level of respiratory care in Vietnam. By doing so, it is expected to provide better medical treatment to patients who have either given up on diagnosis and treatment or have been diagnosed using other methods that are less safe and more physically demanding.

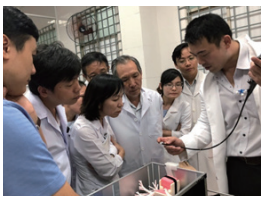

Providing Learning Opportunities to Talented Young People

In order to increase the number of medical personnel who can diagnose and treat patients using bronchoscopy, NCGM conducts five to six training sessions per year for three weeks each, with two to three trainees per session, for outstanding young doctors and nurses recruited from all over Vietnam. The training consists of classroom lectures (including basic anatomy and CT image reading), practice with models, and observation of practical skills at NCGM, followed by lectures by Japanese experts at the respective hospitals in Vietnam, reviews with models, and bronchoscopy on patients under direct supervision. The three weeks at NCGM is a study-intensive period for the trainees, with 7 to 10 hours of study per day and sometimes homework, but it is an opportunity to learn not only about the subject of bronchoscopy, but also about respiratory care and Japanese medicine in general. The practical training in Vietnam has been safe, and we have been able to perform applied bronchoscopy in several hospitals. So far, a total of 45 doctors and nurses from 13 medical institutions have completed the training in Japan, and on-site guidance and lectures have been given at four related academic societies and ten medical facilities in Vietnam. The certificate of this training at NCGM is also qualified in Vietnam.

Continuing the project even when faced with COVID-19

Due to the global outbreak of novel COVID-19, we were unable to accept trainees or provide on-site guidance in 2020. Nevertheless, we continued to receive requests for training from Vietnam and consultations on cases via email. We are continuing the project in any way we can, including writing textbooks in Vietnamese, and giving online lectures.

(Masao Hashimoto)




From top left: Observation of bronchoscopy at NCGM | Review of anatomy using a model | Interpretation by trainees to doctors from neighboring hospitals at Cho Ray Hospital | Participation in the NCGM respiratory medicine conference | Hands-on seminar at Pham Ngoc Thach

Project Story

"In an age when even people in the countryside can freely access the latest medical knowledge with just a smartphone, why is there a difference in medical care between developed countries and Vietnam?" This is one of the questions raised by Vietnamese doctor (sometimes in bars). In addition, we often receive insightful comments from excellent doctors who have developed their skills under the severe medical conditions in Vietnam, and we learn a lot from them.

In addition to bronchoscopy, I personally have the impression that there is much more that can be done in Vietnam. While doing my best to help the patients in front of me in Japan, I would like to continue to find things that I can do as a clinician within my reach.

[Partner country] Socialist Republic of Viet Nam [Project name] "Project for the Development of Human Resources in Clinical Departments Using a Base in Vietnam" (2017), "Development of bronchoscope technique and spreading rerated device in Vietnam" (2018), "Development of bronchoscope technique and spreading rerated device in Vietnam" (2019, 2020)

Strengthening the Emergency Medical System in Cambodia

Photo: Teaching by TOT

The emergency medical system cannot keep up with growing needs

The NCGM Emergency Medicine & Critical Care Department is working on TENKAI project to strengthen the emergency medical system in Cambodia. The project promotes the establishment of an emergency medical system by conducting training for developing human resources in emergency medicine in Cambodia in collaboration with related organizations in Japan and Cambodia.

With the rapid economic growth in Cambodia in recent years, the need for emergency medical services has been increasing due to the increase in traffic accidents and changes in the structure of diseases, but the emergency medical services system has not been able to keep up. Ambulances are dispatched to the scene after receiving a call at a hospital. Basically, the team consists of a doctor, a nurse, and a driver, but in some local cities, due to a shortage of personnel, sometimes only the nurse and the driver go to the scene. The ambulance is equipped with only an oxygen cylinder and a stretcher, and other necessary items are brought out from the emergency department. When the project team evaluated the ambulance's equipment and pre-hospital rescue activities according to the indices recommended by international organizations, it found that most of the items were not met.

Therefore, the project aims to: (1) Train medical directors (MDs) as supervisors; (2) Train trainers of trainees (TOTs), who will actually supervise the trainees, to create a foundation for continuous training of emergency medical personnel; and (3) Provide training tailored to each region, mainly in major cities, to create a foundation for training that covers a wide area. Based on Japan Prehospital Trauma Evaluation and Care (JPTEC™) and Japan Advanced Trauma Evaluation and Care (JATEC™), which have been widely accepted as standardized education for trauma care in Japan, the project team created programs suitable for the local areas and conducted participatory training.

From top: Inside an ambulance | Training in Japan (study of necessary equipment and materials)

Training in Japan and Training in Cambodia

During the 10-day training in Japan, three MDs and four TOTs from the national hospital in Phnom Penh were trained with the cooperation of fire departments, paramedic training institutions, and tertiary emergency medical institutions. They visited relevant institutions, rode in ambulances, and learned teaching methods in a practical training format based on the JPTEC instructor course. They discussed what is needed to strengthen the emergency medical system in Cambodia and summarized it into ten action plans. Although it would be difficult to achieve these in a few years, they were able to set goals so that the level of emergency medical services would improve by realizing the goals in stages.
The training in Cambodia was conducted in Phnom Penh and four other provincial cities. A practical skills training program based on JPTEC™ and JATEC™ was conducted together with TOT, mainly for personnel involved in emergency medicine. Japanese experts provided support, while TOTs trained in Japan took the lead in providing instruction. TOT training was also conducted in local cities, and 21 TOTs were trained over a period of three years. In the evaluation recommended by international organizations, all medical institutions showed improvement. In the future, the project team will follow up with the MDs and TOTs so that they can take the lead in conducting the training by themselves.

Toward the realization of the ten action plans

It takes a long time and a lot of effort involving the government to establish an emergency medical system. There are still some unachieved items in the ten action plans that the trainees came up with. It is also necessary to verify how much the project has contributed to improving the level of emergency medical services in Cambodia. Currently, the project is beginning to work on the development of a trauma registry at the strong request of Cambodia. The project team will continue its activities so that emergency medical services in Cambodia can continue to develop sustainably.

(Manabu Kitahara)

From top: Training in Japan (instructional practice) | Practical training on traffic trauma

Project Story

A few days before our field training in a provincial city, we were in Phnom Penh when a large-scale building collapsed in the provincial city, killing many people. We had conducted field training in that city the previous year. The scene was very close to the hospital where we were training, and a team was dispatched from Phnom Penh to help. I saw the situation on TV, and many of the people from the hospital who had participated in the training the previous year were very active. Afterwards, when we went to the local hospitals, we received words of appreciation from many people who said that what they learned in the training was very useful. I was very touched to see that the project had borne some fruit.

[Partner country] Kingdom of Cambodia [Project name] “Strengthening the Capacity of Emergency Medical Service (EMS) System in the Mekong countries” (2016, 2017), “Project for Strengthening Emergency Medical System through Participatory Development in Cambodia” (2018), “Strengthening the Emergency Medical System in Provincial Cities of Cambodia” (2019), “Supporting establishment of a trauma registration system in Cambodia” (2020)

Putting Japanese Medical Devices to Work in African Hospitals

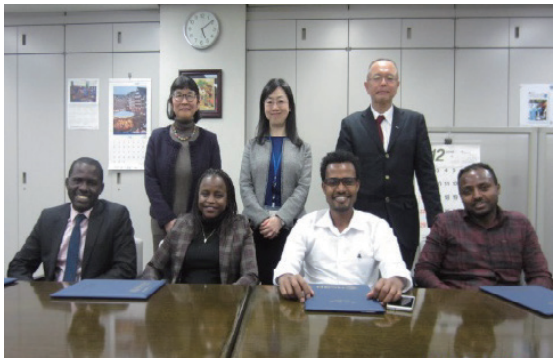
Photo: At Nigeria's National Agency for Food and Drug Administration and Control (NAFDAC)

Working to promote the use of Japanese products in hospitals in Africa

In order for medical devices to be widely used around the world, they must be approved by the World Health Organization (WHO) and regulatory authorities in each country as safe and reliable products. In recent years, the deployment of medical devices in African countries has become increasingly competitive internationally, with growing imports of products from China, Western countries, and other emerging economies. While Japanese-made motorcycles and cameras are well known in African countries, medical devices are not so well known. In order to promote the international expansion of medical devices, since fiscal 2016, Center Hospital of the National Center for Global Health and Medicine (NCGM) has been working on TENKAI Project in Ghana, Zambia, Tanzania, Cameroon, Democratic Republic of the Congo, Ethiopia, and Nigeria related to Japanese medical devices that offer excellent technology and strict quality control, and the regulatory systems that are used to ensure that products are delivered to the market safely. The aim of the project is to promote understanding of Japanese medical devices such as in vitro diagnostics and test kits as well as Japanese regulatory review processes among regulatory authorities and related organizations in African countries. It is envisioned that this will lead to the adoption of Japanese medical devices by local medical facilities and the provision of better medical care.

Introducing Japanese regulatory systems and product safety

In order to promote understanding of Japan's regulatory system for medical devices, under this project regulatory officials from various countries were invited to Japan for training in collaboration with the Pharmaceuticals and Medical Devices Agency (PMDA). NCGM also provided training to give an opportunity for the officials to learn about the consistency between PMDA and WHO pre-approval of medical devices including test kits. Seminars for Japanese companies and ministry officials were also held at NCGM, where regulatory officials from African countries served as lecturers to exchange information on regulatory systems and the penetration of Japanese products in their countries. These events also provided opportunities for Japanese companies to hold individual meetings with the regulatory authorities in each country.



From top left: At NCGM with regulatory officials from Ethiopia and Nigeria | At the Ethiopian Food and Drug Administration (EFDA) | From top right: Study session at NCGM | Discussions between Japanese experts and trainees | Seminar for Japanese companies

What is needed to promote Japanese medical devices in Africa?

Opening up untapped markets and promoting bridges between Japanese companies and regulatory authorities in different countries takes time and requires skilled coordination. Especially in low- and middle-income countries, it is important to capture the unique needs of the country, and key questions include: Can the product perform under harsh natural and infrastructural conditions, such as high temperatures and unreliable water and electricity supplies? Is it easy for anyone to operate the product with little technical knowledge? Is it possible to provide support for consumables such as reagents and maintenance of equipment so that the product can be used for a long time? Has the product been officially recognized by an international organization?

At the same time, Japanese companies are working hard to ensure that their products are used in more medical facilities to help improve health issues, despite the difficulty that adding value and improving services results in high cost and this cost makes it more difficult for low- and middle-income countries to purchase such products. If Japanese products that have passed strict quality control standards can contribute to medicine in various countries, the number of healthy people will increase, and the financial resources for health care in those countries can be expected to improve.

The project created opportunities for Japanese companies to understand what is needed to promote Japanese medical devices in Africa, what laws and regulations act as barriers, and what needs exist in each country. The regulatory officials from each country who participated in the project showed a high level of interest in Japanese products and regulatory systems through the training, and indicated that they would positively consider adopting such products and systems in the future.

(Naofumi Hashimoto)

An example of a medical facility in Africa
A rural health center in Zambia

Tank for storing water used for testing

Refrigerator for storing test reagents

[Partner countries] Republic of Ghana, Republic of Zambia, United Republic of Tanzania, Republic of Cameroon, Democratic Republic of the Congo, Federal Republic of Nigeria, Federal Democratic Republic of Ethiopia [Project name] "The project for African inspection device approval and technical capacity enhancement" (2017) "The project for developing basis of expanding Japanese medical devices in Africa" (2016, 2018, 2019, 2020)

People who Support the TENKAI Project

<Cambodia>

In the Projects for Global Extension of Medical Technologies (TENKAI Project), there are various tasks such as budget management and procurement of necessary materials, and many staff members support its operation. In some cases, administrative staff members are responsible for these types of administrative tasks in the partner country and accompany experts on country visits to support their activities. The following is an introduction to the activities of the administrative staff in the partner countries.

From top: Checking documents with the trainees | Checking the arrangements for a medical rally | Greeting the trainees

I want to see the project in action at the partner country

In 2017, I traveled to Cambodia as a member of the “Strengthening the Capacity of Emergency Medical Service (EMS) System in the Mekong countries” project. Against the backdrop of increasing road accidents and non-communicable diseases (heart disease, stroke, etc.) in ASEAN countries, the project has started to create a system to develop human resources who could provide high quality emergency medical services in Cambodia and Laos, countries where there was a growing need to establish emergency medical systems. The administrative staff supported the project activities in general, including the management of expenses. While performing daily tasks in Japan, such as arranging flights and settling travel expenses for the experts' overseas business trips, I began to think that I wanted to see Cambodia itself, so I raised my hand and was given the opportunity to travel there.

Supporting a Medical Rally

In Cambodia, Japanese staff from the NCGM Emergency Medicine & Critical Care Department, in collaboration with other partner institutions, conducted a “Medical Rally” training for local medical personnel.

In the Medical Rally, teams of medical professionals competed to quickly and accurately diagnose and treat patients in a limited amount of time. The trainees were divided into six groups and competed in the process of giving life-saving measures to a patient who had been knocked unconscious in a motorcycle accident, transporting him to the hospital in an ambulance, and treating him in the hospital. The office staff helped manage the process as timekeepers. A real ambulance was used for the demonstration, and the training was filled with a sense of realism, just like an actual accident scene.

Scene from the medical rally

Giving Back to Project Promotion

In addition to supporting the medical rally, the administrative staff was responsible for purchasing materials and equipment, paying expenses, confirming schedules with Japanese experts and local staff, preparing training materials, and coordinating the venue. Although administrative staff cannot instruct trainees, by accompanying them to the country and taking care of accounting and coordination tasks, we can create an environment where experts can concentrate on project activities such as seminars and trainings. In addition, by experiencing overseas business trips themselves, administrative staff will be able to more accurately calculate the expenses required to conduct seminars and symposiums. The accumulation of know-how of the administrative staff, who work as a team with the experts, is utilized to promote projects behind the scenes.

Commemorative photo after the medical rally

(Kyoko Takizawa)

Ministry of Health, Labour and Welfare
Fiscal 2021 Projects for Global Extension of Medical Technologies

For inquiries and applications, please visit the website.

| Secretariat | Bureau of International Health Cooperation,
National Center for Global Health and Medicine
1-21-1 Toyama, Shinjuku-ku, Tokyo 162-8655, Japan
| TEL | +81-3-3202-7181 (main) | EMAIL | kokusaitenkai@it.ncgm.go.jp
| WEBSITE | http://kyokuhp.ncgm.go.jp/activity/open/index.html

TENKAI Project News
(English edition) vol.1

Published
March 2021

Secretariat of the Projects for Global Extension of Medical Technologies
National Center for Global Health and Medicine
1-21-1 Toyama, Shinjuku-ku, Tokyo 162-8655, Japan
tel: +81-3-3202-7181 fax: +81-3-3205-7860
dghp@it.ncgm.go.jp
http://kyokuhp.ncgm.go.jp/

TENKAI Project News vol. 1 2021 Published March 2021 ISSN 2436-1968
Secretariat of the Projects for Global Extension of Medical Technologies, National Center for Global Health and Medicine