



【Online】 Knowledge Co-Creation Program (Group & Region Focus)

GENERAL INFORMATION ON

**MEDICAL EQUIPMENT MANAGEMENT AND MAINTENANCE (A)
(Online)**

**課題別研修「医療機材管理・保守 (A) 」(遠隔研修)
JFY 2021**

Course No.: 202003012J001

On-Demand Program Period: December 6, 2021 to December 23, 2021

On-line Program Period : January 11, 2022 to March 15, 2022

This information pertains to one of the JICA Knowledge Co-Creation Programs (Group & Region Focus) of the Japan International Cooperation Agency (JICA) implemented as part of the Official Development Assistance of the Government of Japan based on bilateral agreement between both Governments.

In the context of the COVID-19 pandemic, please note that there is still a possibility the course period will be changed, shortened, or the course itself will be cancelled.

JICA Knowledge Co-Creation Program (KCCP)

The Japanese Cabinet released the Development Cooperation Charter in February 2015, which stated, *“In its development cooperation, Japan has maintained the spirit of jointly creating things that suit partner countries while respecting ownership, intentions and intrinsic characteristics of the country concerned based on a field-oriented approach through dialogue and collaboration. It has also maintained the approach of building reciprocal relationships with developing countries in which both sides learn from each other and grow and develop together.”* JICA believes that this ‘Knowledge Co-Creation Program’ will serve as a foundation of mutual learning process.

I. Concept

Background

Developing countries are facing big challenges to establish and maintain a sustainable and reliable health service delivery system. The Government of Japan and JICA continuously supported various medical facilities, in order to achieve this goal. For example, JICA provided medical equipment to these facilities as part of capacity development in the health sector. Human resource development for management and maintenance of medical equipment is essential in maximizing and sustaining the impact of such assistance by the Government of Japan. From the lessons of the past training programs, it is critical to improve the knowledge and the skills of the engineers who are currently engaged in the management and maintenance of medical equipment.

This training course is designed for participants from English-speaking countries to ameliorate serious shortages of well-trained engineers. The training will provide basic knowledge and technics to properly maintain medical equipment, to ultimately raise the quality of medical care in the target countries.

For what?

Proper management and maintenance of medical equipment are critical in delivering effective healthcare services. This training course enables engineers in charge of medical equipment maintenance to acquire electric, electronic and medical engineering skills, as well as the knowledge and the skills on proper handling of medical equipment. The goal is to enable the participants to contribute to raising the medical equipment management and maintenance standards in their home countries.

For whom?

Engineers who are in charge of the management and maintenance of medical equipment at ministry of health, national hospitals, medical research laboratories, medical educational facilities and major regional hospitals in the target countries.

How?

The training course will be provided by online. The course materials are specially developed for engineers in charge of management and maintenance of medical equipment in the target countries, in collaboration with Japanese experts in the field.

II. Description

1. Title (J-No.): Medical Equipment Management and Maintenance (A) (202003012J001)

2. Online Program Period

(1) On Demand Program(All countries) : **December 6, 2021 to December 23, 2021**

(2) On line Program Period :

I. February 7, 2022 to February 15, 2022

(Marshall, Micronesia, Palau, Papua New Guinea, Solomon, Timor-Leste)

II. February 21, 2022 to March 1, 2022

(Bangladesh, Bhutan, Laos, Mongolia, Nepal, Sri Lanka)

III. March 7, 2022 to March 15, 2022

(Argentina, Eswatini, Saint Lucia, Uganda, Zambia)

In the context of the COVID-19 pandemic, please note that there is still a possibility the course period will be changed, shortened, or the course itself will be cancelled.

3. Target Countries

Argentina, Bangladesh, Bhutan, Eswatini, Laos, Marshall, Micronesia, Mongolia, Nepal, Palau, Papua New Guinea, Saint Lucia, Solomon, Sri Lanka, Timor-Leste, Uganda, Zambia

4. Eligible / Target Organization

This program is designed for engineers from the ministry of health, national hospitals, medical research laboratories, medical educational facilities and major regional hospitals.

5. Course Capacity (Upper limit of Participants)

18 participants

6. Language to be used in this program: English

7. Course Objective:

The purpose of the course is to improve the knowledge and the skills of government officers and staff members, who are engineers, and are responsible for purchasing, managing and maintaining medical equipment, so that an appropriate level of medical equipment management and maintenance services can be achieved and maintained in the target countries.

8. Overall Goal

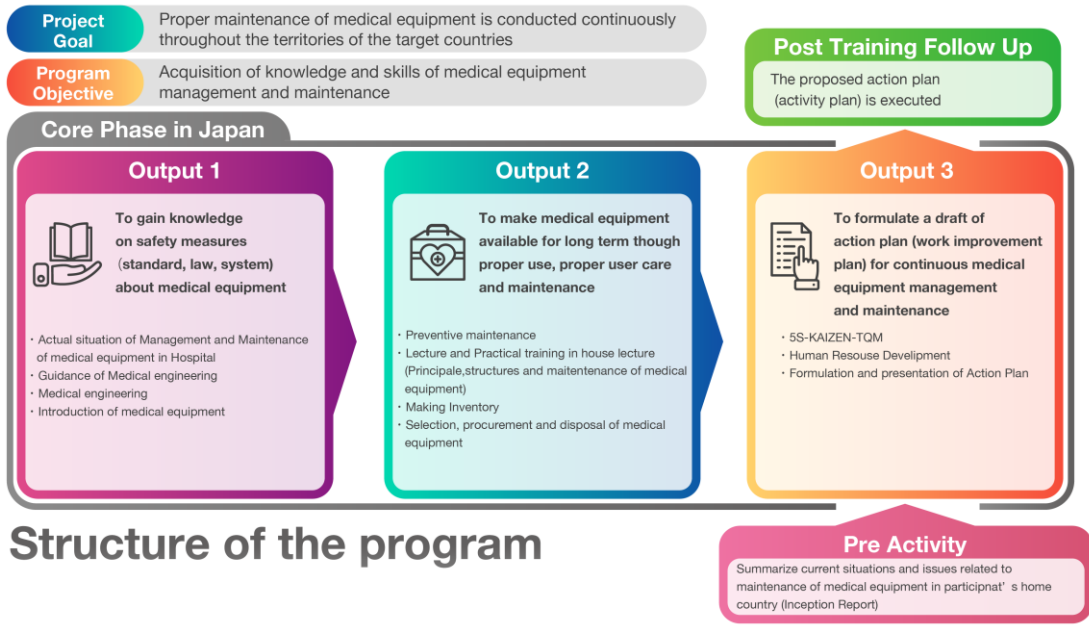
Through the course, an appropriate level of medical equipment management and maintenance are continuously provided in the target countries, and the quality of medical services is improved.

9. Expected Module Output and Contents:

This program consists of the following components. Details on each component are given below:

Expected Module Output	Subjects/Agendas	Methodology
Prior to your online program		
Preliminary Activity	(1) Prepare Inception Report	Exercise
<u>Online On Demand Program at your country</u>		
As a part of the training course, each participant is required to participate in Online Program remotely in respective country.		
<u><Online Program></u> 1. To gain knowledge on safety measures (standard, law, system) about medical equipment	Guidance of Medical engineering Medical engineering (material engineering, biophysics, bioinstrumentation) Safety management Introduction of medical equipment Planned Preventive maintenance	On-demand Lecture On-demand Lecture On-demand Lecture On-demand Lecture On-demand Lecture
<u><Online Program></u> 2. To make medical equipment available for long term through proper use, proper user care and maintenance	Selection, procurement and disposal of medical equipment Basic knowledge of sterilization Basic knowledge of Electrocardiogram Basic knowledge of Artificial ventilator	On-demand Lecture On-demand Lecture On-demand Lecture
<u>Online Program at your country</u>		
As a part of the training course, each participant is required to participate in Online Program remotely in respective country.		
1. To gain knowledge on safety measures (standard, law, system) about medical equipment	(1) Actual situation of Management and Maintenance of medical equipment in Hospital	Lecture and Exercise

	(2) Visit Hospital	Lecture and Pre recorded Video
2. To make medical equipment available for long term through proper use, proper user care and maintenance	(1) Preventive maintenance	Lecture and Exercise
	(2) Lecture and Practical training in house lecturer (Principle, structures and maintenance of medical equipment)	Lecture and Exercise
	(3) Medical devices related to the Covid-19	Lecture
	(4) Visit hospital	Lecture Pre Recorded Video
3. To formulate a draft of action plan (work improvement plan) for continuous medical equipment management and maintenance	(1) 5S	Lecture and Exercise
	(2) Formulation and presentation of Action Plan	Lecture and Exercise
After Finish the K.C.C.P		
Post Training Follow Up	Presentation of training report and action plan to your supervisors and related staff members	Exercise
	Execution of your action plan	Exercise



Structure of the program

III. Eligibility and Procedures

1. Expectations to the Applying Organizations:

- (1) This program is designed primarily for organizations that intend to address specific issues or problems related to medical equipment management and maintenance. The participating organizations are expected to utilize this opportunity to train appropriate personnel in the field.
- (2) The course materials are specially developed, in collaboration with relevant prominent organizations in Japan, to meet the specific needs of participating organizations, so that the organizations can work toward effectively managing and resolving the issues and problems related to medical equipment management and maintenance.
- (3) As this program is designed to facilitate participants to come up with the plan to bring a change in their organization. Participating organizations are expected to make due preparation with the participants by carrying out the activities of the Preliminary Phase described in section II-9
- (4) Participating organizations are also expected to make the best use of the results achieved by their participants by carrying out the activities of the Finalization Phase described in section II-9.
- (5) Participating organizations are requested to allow the participants to participate in this online program for three hours a day and attend Online live sessions (7days) during the program period without disturbing by daily work.

2. Nominee Qualifications:

Applying Organizations are expected to select nominees who meet the following qualifications.

(1) Essential Qualifications

- 1) Current Duties: be an engineer in charge of the management and maintenance of medical equipment in the ministry of health, national hospitals, medical research laboratories, medical educational facilities and/or major regional hospitals in the target countries
- 2) Experience in the relevant field: have more than 5 years of experience in the field of medical equipment management and maintenance
- 3) Language: have a competent command of spoken and written English
- 4) Age: must be under 45 years of age
- 5) Recommendation: must receive a recommendation by the national government or JICA projects
- 6) PC with the Internet access and web camera: Possess a PC with the Internet access to YouTube (streaming), Google Classroom (or other learning management system such as Cornerstone), and Zoom. Also with a web camera for the online live sessions

- 7) Time management: Have permission to participate in this online program for two to three hours a day, including several live sessions
- 8) Health: must be in good health to participate in the program. To reduce the risk of worsening symptoms associated with respiratory tract infection, please be honest to declare in the Medical History (QUESTIONNAIRE ON MEDICAL STATUS RESTRICTION of the application form) if you have been a patient of following illnesses; Hypertension / Diabetes / Cardiovascular illness / Heart failure / Chronic respiratory illness.

(2) Recommendable Qualification

Gender Consideration: JICA is promoting Gender equality. Women are encouraged to apply for the program.

(3) IT Environment

- 1) Internet communication speed: downstream bandwidth is more than 20Mbps
- 2) Browser Recommended: Google Chrome, Microsoft Edge Chromium
Alternative: Firefox, Safari
- 3) OS: Windows 10, macOS, Android
- 4) Device: to be prepared a PC or Tablet/Smartphone

3. Required Documents for Application

(1) Application Form: The Application Form is available at **JICA overseas office (or the Embassy of Japan)**.

* If you have any difficulties/disabilities which require assistance, please specify necessary assistances in the QUESTIONNAIRE ON MEDICAL STATUS RESTRICTION (1-(c)) of the application form. Information will be reviewed and used for reasonable accommodation.

(2) Photocopy of passport: You should submit it with the application form if you possess your passport. If not, you are requested to submit its photocopy as soon as you obtain it.

*The following information should be included in the photocopy:

Name, Date of Birth, Nationality, Sex, Passport Number and Expiry Date

4. Procedures for Application and Selection :

(1) Submission of the Application Documents:

Closing date for applications: **Please inquire to the JICA office (or the Embassy of Japan)**.

***The closing date in your country is earlier than the date noted below.**

(After receiving applications, the JICA office (or the Embassy of Japan) will send them to **JICA Tohoku in JAPAN** by **October 15, 2021**)

(2) Selection:

Primary screening is conducted at the JICA overseas office (or the embassy of

Japan) after receiving official documents from your government. JICA Center will consult with concerned organizations in Japan in the process of final selection. Applying organizations with the best intentions to utilize the opportunity will be highly valued.

The Government of Japan will examine applicants who belong to the military or other military-related organizations and/or who are enlisted in the military, taking into consideration of their duties, positions in the organization and other relevant information in a comprehensive manner to be consistent with the Development Cooperation Charter of Japan.

(3) Notice of Acceptance

The JICA overseas office (or the Embassy of Japan) will notify the results not later than **November 5, 2021**.

5. Additional Document(s) to Be Submitted by Accepted Candidates:

Inception Report -- to be submitted by **November 30, 2021**

Accepted candidates are required to prepare an Inception Report (Please read ANNEX-I "Inception Report" for detailed information.) before online training. The Inception Report should be sent to JICA by November 30, 2021, preferably by e-mail to thictad@jica.go.jp

6. Conditions for Participation:

The participants of KCCP are required

- (1)** to strictly observe the course schedule,
- (2)** to carry out such instructions and abide by such conditions as may be stipulated by both the nominating Government and the Japanese Government in respect of the course,
- (3)** to observe the rules and regulations of the program implementing partners to provide the program or establishments,
- (4)** not to engage in political activities, or any form of employment for profit,
- (5)** to discontinue the program, should the participants violate the Japanese laws or JICA's regulations, or the participants commit illegal or immoral conduct, or get critical illness or serious injury and be considered unable to continue the course. The participants shall be responsible for paying any cost for treatment of the said health conditions,
- (6)** to return the total amount or a part of the expenditure for the KCCP depending on the severity of such violation, should the participants violate the laws and ordinances, and
- (7)** to refund allowances or other benefits paid by JICA in the case of a change in schedule.

IV. Administrative Arrangements

1. Organizer:

(1) **Name:** JICA TOHOKU

(2) **Contact:** Mr. YAMAGUCHI Hiroyuki (thictad@jica.go.jp)

2. Implementing Partner:

(1) **Name:** Air Water East Japan Inc. (Medisun Group Fukushima Branch)

(2) **URL:** none

3. Orientation:

An orientation will be held at the respective country's JICA office (or the Japanese Embassy), to provide Participants with details on conditions of the course, and other matters.

*YouTube of Course introduction: https://www.youtube.com/watch?v=uFogvxbR_uE

4. About JICA Tohoku Center

Website: <https://www.jica.go.jp/tohoku/english/office/index.html>

The screenshot shows the JICA Tohoku Center website. At the top, there is a navigation bar with language options (日本語, English, Français, Español), utility links (Site Map, FAQ, Contact Us), and a search bar. Below the navigation bar is a main menu with categories like Home, About JICA, News & Features, Countries & Regions, Our Work, Publications, and Investor Relations. The main content area features a blue header for 'Tohoku Center' and a sidebar with a menu for 'About JICA' including JICA's Vision, President's Desk, Organization, Domestic Offices, Library, ODA and JICA, and History. The main content includes a group photo of staff, an 'Office Information' box with the address: 20th floor, Sendai Daiichi Seimei Tower Bldg., 6-1 Ichiban-cho 4-chome, Aoba-ku, Sendai City, Miyagi Prefecture 980-0811, and a paragraph of text describing the center's location and mission.

JICA Tohoku Center (JICA Tohoku) is located in Sendai, the largest city in the northern Japan. We are blessed with beautiful nature, delicious seafood and abundant tourism resources in rural Japan.

In March 2011, the Tohoku region was devastated by massive earthquakes and tsunamis. We were fortunate to receive overwhelming support from all over the world, and are thankful for the assistance we received. Since the event JICA Tohoku has partnered with local people, taking part in the rebuilding effort in the region through partnerships providing diverse assistance programs. Through this effort, the disaster affected areas collaboratively worked on recovery with developing countries. These joint effort further strengthen the community relationship between Tohoku and other developing countries.

Find us on Facebook at <https://www.facebook.com/Jicatohoku>



JICA Tohoku



JICA Plaza Tohoku

V. ANNEX-I:

Medical equipment management and maintenance

Inception Report

Name of applicant :

Country :

Organization and present post :

E-mail :

Remark1 : The Report should be typewriting in English (12 point font,A4 size paper)and total pages of the report must be limited to 5 pages.

Remark2 : Each participant is required to have presentation in 10 minutes based on this Inception Report at the early stage of the training for the purpose of the making the training more effective and fruitful by comprehending the situations and problems of the participant each other.

Remarks3 : For Inception Report presentation, we recommend that you will use visual aids such as Power Point, slides, films and other materials.

<Contents>

1. Introduce general condition of your country, i.e., Population, climate, main products, national budget and other important figures.

2. Describe overall condition of status health and medical situations (national strategies, organization structure of health institutions including ministry of health, main medical systems including insurance schemes, main diseases and health services, number of hospital, medical staffs and other supportive systems, etc.)

3. Please draw a chart of your organization and write the names of departments (sections). In addition, please add the number of staffs of each department (section) in it.

4. Hospital Profiles

Please explain the administration of your hospital.

If you are working at Ministry of Health or other (e.g. educational institution), Please skip it.

Ownership		
Name of the hospital		
Coverage area		
Coverage hospital (estimate)		
No. of employees (persons)	Medical doctor	
	Nurse	
	Biomedical staff (Engineer or Technician)	
Number of beds		
Number of inpatients per month(persons)		
Number of outpatient per day (persons)		
Number of delivery per month (persons)		
Number of operation per month	General anesthesia	
	Local anesthesia	

Hospital income and expenditures (Annual)

Income	Central government	
	Local government	
	Patient Medical expense	
	Others	
Total income		
Expenditures	Administration	
	Maintenance	
	Newly purchase of Medical equipment	
	Spare parts, consumable for Medical equipment	
	Service contract(outsourcing) of Medical equipment management	
Total expenditures		

Medical equipment management

5. Please describe your country Act, Cabinet order, Regulation of medical equipment management field.

6. In your hospital /Organization, What type of special software use that to manage medical devices?

7. Please describe problems and difficulties in the medical equipment management field?

(Remark: bullet point, 3 problems)

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-
-

8. Please describe major causes of failures or breakdown of medical equipment.

(Remark: bullet point, 3 problems)

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-
-

9. Please describe major Japanese medical equipment used in your country.

Note: equipment name, manufacture, model

10. Please attached list of medical equipment used at your facility

(Remark: Attach photo, and List)

11. Please describe the name of the medical equipment and numbers that is currently out of order, what causes the failure?

(Note: Ultrasound device, fault of transducer (Probe), User dropped transducer on the floor)

12. Please describe what type of medical equipment do you most frequently maintain?

(Remark: bullet point, 3 medical device)

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13. What is the most interesting subject in this training?

14. What is the most challenge you want to solve in your organization?

V. ANNEX-II:

Course Schedules for FY2021

Medical Equipment Management and Maintenance Course

	day	Time	Contents
Tue	1	9:00-9:30 9:30-10:00 10:00-11:20 11:20-11:40 11:40-12:00	Orientation Opening Ceremony Inception report presentation and Q&A Explanation of assignment (action plan) Japanese Language class
Wed	2	9:00-9:15 9:15-10:30 10:30-11:00 11:00-12:00	Morning meeting ("Show & Tell" each county's appealing point) Actual Situation of management and maintenance of medical equipment at Japanese hospitals What is 5S method at medical institutions Problem analysis and discussion
Thu	3	9:00-9:15 9:15-10:30 10:30-11:15 11:15-12:00	Morning meeting ("Show & Tell" each county's basic information) Planned preventive maintenance(PPM) How to develop and utilize Inventory list How to develop tools for PPM (Standard operating procedure and Checklist for User and Engineer)
Fri	4	9:00-9:15 9:15-9:45 9:45-11:00 11:00-12:00	Morning meeting ("Show & Tell" each county's basic information) Medical equipment management by COVID19 situation Introduce for Medical equipment for related to the COVID-19 (Ventilator, CPAP, UVC disinfect system etc.) How to inspect those medical equipment.
Sat			Assignment implementation day
Sun			※ 【Theme】 Develop the tool for implementation for PPM (Standard operating procedure and Checklist for User and Engineer)
Mon	5	9:00-9:15 9:15-10:45 10:45-12:00	Morning meeting ("Show & Tell" each county's appealing point) Check the content of the development tool(assignment) Principle, operation and maintenance of Medical device (sterilizer)
Tue	6	9:00-9:15 9:15-10:15 10:15-11:15 11:15-12:00	Morning meeting ("Show & Tell" each county's appealing point) Safety management "Important factor by PPM" How to measure the leakage current. Troubleshooting
Wed	7	9:00-9:15 9:15-11:00 11:00-11:30 11:30-12:00	Morning meeting ("Show & Tell" each county's appealing point) Action Plan Presentation ※ 【Theme】 Evaluation meeting Closing ceremony

For Your Reference

JICA and Capacity Development

Technical cooperation is people-to-people cooperation that supports partner countries in enhancing their comprehensive capacities to address development challenges by their own efforts. Instead of applying Japanese technology per se to partner countries, JICA's technical cooperation provides solutions that best fit their needs by working with people living there. In the process, consideration is given to factors such as their regional characteristics, historical background, and languages. JICA does not limit its technical cooperation to human resources development; it offers multi-tiered assistance that also involves organizational strengthening, policy formulation, and institution building.

Implementation methods of JICA's technical cooperation can be divided into two approaches. One is overseas cooperation by dispatching experts and volunteers in various development sectors to partner countries; the other is domestic cooperation by inviting participants from developing countries to Japan. The latter method is the Knowledge Co-Creation Program, formerly called Training Program, and it is one of the core programs carried out in Japan. By inviting officials from partner countries and with cooperation from domestic partners, the Knowledge Co-Creation Program provides technical knowledge and practical solutions for development issues in participating countries.

The Knowledge Co-Creation Program (Group & Region Focus) has long occupied an important place in JICA operations. About 400 pre-organized courses cover a wide range of professional fields, ranging from education, health, infrastructure, energy, trade and finance, to agriculture, rural development, gender mainstreaming, and environmental protection. A variety of programs is being customized by the different target organizations to address the specific needs, such as policy-making organizations, service provision organizations, as well as research and academic institutions. Some programs are organized to target a certain group of countries with similar developmental challenges.

Japanese Development Experience

Japan, as the first non-Western nation to become a developed country, built itself into a country that is free, peaceful, prosperous and democratic while preserving its tradition. Japan will serve as one of the best examples for our partner countries to follow in their own development.

From engineering technology to production management methods, most of the know-how that has enabled Japan to become what it is today has emanated from a process of adoption and adaptation, of course, has been accompanied by countless failures and errors behind the success stories.

Through Japan's progressive adaptation and application of systems, methods and technologies from the West in a way that is suited to its own circumstances, Japan has developed a storehouse of knowledge not found elsewhere from unique systems of organization, administration and personnel management to such social systems as the livelihood improvement approach and governmental organization. It is not easy to apply such experiences to other countries where the circumstances differ, but the experiences can provide ideas and clues useful when devising measures to solve problems.

JICA, therefore, would like to invite as many leaders of partner countries as possible to come and visit us, to mingle with the Japanese people, and witness the advantages as well as the disadvantages of Japanese systems, so that integration of their findings might help them reach their developmental objectives.



CORRESPONDENCE

For enquiries and further information, please contact the JICA office or the Embassy of Japan. Further, address correspondence to:

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