

Ex-Ante Evaluation (for Japanese ODA Loan)

1. Name of the Project

Country: The Socialist Republic of Viet Nam

Project: Cho Ray Viet Nam - Japan Friendship Hospital Development Project

Loan Agreement: November 10, 2015

Loan Amount: 28.612 billion yen

Borrower: The Government of the Socialist Republic of Viet Nam

2. Background and Necessity of the Project

(1) Current State and Issues of the Development History in the Health Sector of Viet Nam

Viet Nam has a three-tiered public medical system comprising of primary (Commune/District Level), secondary (Provincial Level) and tertiary (Central Level) levels. Hospitals operate on a referral system wherein patients are referred between hospitals, being sent to the medical facility deemed most appropriate to treat their ailment or injury. However, due to each province's lack of budget, the many hospitals that are below the provincial level endure insufficient facilities and equipment, as well as shortfalls in both the quantity and quality of medical staff. This results in poor reliability in lower-level hospitals which has led to the current problem of patients concentrating at central-level hospitals in urban areas. Among central-level hospitals nationwide, Cho Ray Hospital in Ho Chi Minh City, which covers the southern region, continues to carry a bed occupancy rate of around 140%, causing not only a decline in the quality of medical services but also dysfunction of the referral system itself. Further, the disease structure of Viet Nam has been shifting from infectious to non-infectious diseases such as lifestyle-related diseases, being driven by the rising standard of living and lifestyle changes brought about by economic growth. Therefore, a more advanced level of medical care is demanded.

(2) Development Policies for the Health Sector in Viet Nam and the Priority of the Project

The Viet Nam government outlined its plans to rectify major hospital overloads, strengthen healthcare systems and preventative medicine, and develop information systems in its "Ten-Year Socio-Economic Development Strategy (2011–2020)" and "Five-Year Health Sector Development Plan (2011–2015)," which embodies the approach of the 10-year strategy. Prime Ministerial Decision No.92/QD-TTg, "Approval of the Scheme on Hospital Overload Reduction (2013–2020)," which came into effect in 2013, also set goals to quantitatively and qualitatively improve hospitals, and declared the intent to improve and modernize central-level hospitals in major cities on a priority basis, strengthen hospital management, and upgrade information technologies. The "Cho Ray Viet Nam-Japan Friendship Hospital Development PJ" (hereinafter, "the Project") has been positioned as a project that will contribute to improving Viet Nam's medical system in the medium term by reducing overcrowding at urban central-level hospitals—which is the most pressing issue, while also strengthening the capacity of lower-level hospitals, promoting advanced medical care and

preventive medicine, and improving the quality of hospital management.

(3) Japan and JICA's Policy and Operations in the Health and Medical Sectors in Viet Nam

In Japan's "Country Assistance Policy for the Socialist Republic of Viet Nam (December 2012)," with regard to one of the critical issues: "measures to reduce vulnerability", Japan declared the intent to provide support in order to achieve institutional improvement in the fields of healthcare, social welfare, and aid for the socially vulnerable for the purpose of improving social and daily lives, and alleviating poverty and disparities.

Over the years, JICA has been providing support to three central-level hospitals which were upgraded through grant aid projects (Bach Mai Hospital in Hanoi City, Hue Central Hospital in Hue City, and Cho Ray Hospital in Ho Chi Minh City). Specifically, support has focused on human resource development and institutional improvement through Technical Cooperation for the purpose of building and strengthening the coordination system with lower-level hospitals and improving rural medical services. As a planned outcome of these results, cooperation has been carried out in recent years to rectify medical service level disparities between urban and rural areas by developing human resources and upgrading medical equipment at rural hospitals via ODA loans.

(4) Other Donors' Activities

The World Bank has a past record of providing support by improving institutions that train health professionals, combating infectious diseases at a country level, establishing health-related funds for the impoverished persons, and enhancing district-level (and some province-level) medical facilities, especially around the northeastern Red River Delta area. The Asian Development Bank has a past record of developing qualification systems for healthcare personnel and strengthening province-level medical facilities in the southern region. South Korea has implemented a general hospital development project through Grant Aid as well as a medical equipment outfitting project for the Otolaryngology Department of a hospital in Hanoi City through loan assistance.

(5) Necessity of the Project

This project has been deemed highly necessary. In addition to expanding the available beds of central-level hospitals, it also facilitates the use of Japan's technology and knowledge to improve medical treatment and hospital management capabilities, and to strengthen preventative medicine which is a more recent issue in Viet Nam.

3. Project Description

(1) Project Objective(s)

The Project aims at reducing the overload on central-level hospitals by expanding the number of beds through the construction and procurement of medical equipment for Cho Ray Viet Nam-Japan Friendship Hospital (Cho Ray Second Hospital) in Ho Chi Minh City. This will promote advanced medical care and preventive medicine, strengthen functionality as a development and training hub for healthcare professionals, including those at low-level hospitals, and to improve medical services by strengthening the quality control of hospitals,

which will contribute to strengthening the health care system of Viet Nam as a whole.

(2) Project Site/Target Area

Ho Chi Minh City

(3) Project Components

- 1) Hospital construction (number of beds, 1000)
- 2) Procurement of medical equipment
- 3) Development of health and medical information systems (ICT)
- 4) Consulting services (bidding assistance, construction supervision, strengthening hospital management structure, improving medical equipment and ICT operation, etc.)

(4) Estimated Project Cost (Loan Amount)

39.841 billion yen (of which, the ODA Loan amount is 28.612 billion yen)

(5) Schedule

September 2015 to May 2021 (69 months total). The project will be completed when the hospital begins operation

(6) Project Implementation Structure

- 1) Borrower: The Government of the Socialist Republic of Viet Nam
- 2) Guarantor: None
- 3) Executing Agency: Cho Ray Hospital (Cho Ray Hospital)
- 4) Operation and Maintenance System: Cho Ray Hospital and Cho Ray Viet Nam-Japan Friendship Hospital will each have independent corporate status. However, an integrated management department will be established for areas where it is desirable to centralize operations, such as lower-level hospital guidance, human resources, human resource development, health and medical information systems, etc.

(7) Environmental and Social Considerations/Poverty Reduction/Social Development

1) Environmental and Social Considerations

- i) Category: B
- ii) Reason for Categorization: This project is not applicable to sectors/characteristics susceptible to the impacts listed in "JICA Guidelines for Environmental and Social Considerations" (promulgated in April 2010; hereinafter "JICA Guidelines"), thus the negative impact on the environment from this project is considered negligible.
- iii) Environmental Permit: The Environmental Impact Assessment Report (EIA) for this project was approved by the Ministry of Natural Resources and Environment in September 2014.
- iv) Anti-pollution Measures: To satisfy Viet Nam's domestic emission and environmental standards, measures will be taken during construction to safeguard air quality, water quality and noise pollution levels, including water spraying by contractors (to minimize dust), installation of purification equipment, and construction of noise barriers. After the hospital goes into service, there are also plans for Cho Ray Viet Nam-Japan Friendship Hospital to take additional measures for water quality, medical waste, etc., including by installing waste water purification equipment and

contracting with suitable collection contractors.

- v) Natural Environmental: The project area is expected to have minimal impact on the natural environment as it will not affect impact-vulnerable areas such as national parks or the surroundings of such areas.
 - vi) Social Environment: This project will acquire approximately 10 ha of land necessitating the relocation of three homes. The acquisition of these properties will proceed according to JICA guidelines and Viet Nam's domestic procedures and resettlement action plan.
 - vii) Other/Monitoring: As it is assumed that rainwater will be less able to seep underground, provisions against flooding will be taken by constructing the facility at a level sufficiently higher than surrounding roads. As for monitoring, a Project Management Unit established at Cho Ray Hospital monitors air quality, water quality, noise level etc. during the construction. Once the hospital goes into service, Cho Ray Viet Nam - Japan Friendship Hospital will take over monitoring of water quality etc.
- 2) Promotion of Poverty Reduction: An insurance fund for the poor is set up for the impoverished segment of the population. These patients will receive medical treatment at no charge as the government will cover all medical fees under its budget. Consideration has been put into medical care of impoverished persons. As a public hospital, Cho Ray Viet Nam-Japan Friendship Hospital intends to adopt similar measures as Cho Ray Hospital, wherein impoverished persons will be covered by an exemption system for meal expenses during hospitalization.
- 3) Promotion of Social Development (gender aspects, measures against AIDS and other infectious diseases, participatory development, accommodation of persons with disabilities, etc.): As part of its patient-centric service, the hospital plans to introduce woman-friendly services that include women-only waiting areas and healthcare service to female patients by female staff. The executing agency will also implement HIV/AIDS measures (such as an awareness program) for construction workers which will be entrusted to construction supervision consultants. Contracts will also obligate contractors to ensure that construction workers take measures to protect against HIV/AIDS.
- (8) Collaboration with Other Donors: Nothing in particular.
- (9) Other Important Issues: Given that this project is expected to realize advanced medical services as a tertiary hospital and to serve as a model for hospital quality control, the use of Japanese technology is assumed to be adopted in the construction of hospital facilities and appointment of advanced medical equipment, which are advantageous in terms of energy efficiency as well as environmental conservation.

4. Targeted Outcomes

(1) Quantitative Effects

1) Operation and Effect Indicators

Indicator	Baseline (Actual value in 2014)		Target (2023) [3 Years after Completion]	
	Cho Ray Hospital	Cho Ray Viet Nam-Japan Friendship Hospital	Cho Ray Hospital	Cho Ray Viet Nam-Japan Friendship Hospital
Bed Occupancy Rate (%)	134.9 (2013)	—	95 (both hospitals combined)	
CT scans (per year)	96,892 (2012)	—	79,771	42,120
MRI imaging (per year)	17,879 (2012)	—	14,720	7,231
(PDCA cycle) Administration by department	Information is not prepared and almost never implemented	—	Implemented (see Note 1)	Implemented (see Note 1)
Number of clinical pathways	20	—	40	40
Patients undergoing complicated surgery (persons/year)	24,291 (2012)	—	19,999	8,006
Percentage of newly hospitalized patients (%)	52.6 (2012)	—	70 (both hospitals combined)	
Persons completing training at Cho Ray Hospital/Cho Ray Viet Nam-Japan Friendship Hospital (persons/year)	1,394 (2013)	—	1,500	387

Note 1: "Implemented" is defined as "More than 80% of medical departments use data maintained in hospital information systems to create an improvement plan once every six months and obtain approval from managers"

2) Internal Rate of Return

Based on the following assumptions, the Economic Internal Rate of Return (EIRR) of this project is 18.71%. Given that medical fees, a benefit of this project, are not at levels that could expect recovery of project costs, the Financial Internal Rate of Return (FIRR) has not been calculated.

[EIRR]

Cost: Project cost, operation and maintenance cost, etc.

Benefit: A positive effect on GDP will result by extending the life span of citizens through the highly complicated surgery performed at Cho Ray Viet Nam-Japan Friendship Hospital

Project life: 40 years

(2) Qualitative Effects

The risk of infectious diseases is suppressed primarily by improving Viet Nam's healthcare services and strengthening hospital anti-infection measures.

5. External Factors and Risk Control

No matters in particular.

6. Evaluation Results of Past Projects and Lessons Learned for this Project

Based on the results of ex-post evaluations, etc., of the "Project for Improvement of Hoa Binh General Hospital" (Viet Nam), the "Project for Improvement of Facilities for the Hue Central Hospital" (Viet Nam), and the "Rural Health Infrastructure Strengthening Project" (Thailand), an important lesson learned was that, when selecting medical devices, it is vital to carefully assess hospital staff's ability to operate and maintain them, and also the budget required to operate and maintain such equipment. In the "Project for Improvement of Facilities for the Hue Central Hospital" in particular, the hospital's in-house medical equipment department manages the inspection and repair records of all equipment centrally and prepares and implements annual plans for frequent regular inspections. By doing so, measures are being taken to prevent equipment breakdowns despite a limited O&M budget.

Advanced medical equipment, including CT and MRT equipment, is being appropriately maintained by Cho Ray Hospital in this project and are in favorable working order. Thus, it has been confirmed that there are no issues with regard to the selection of medical devices so far. Meanwhile, some equipment at Cho Ray Viet Nam-Japan Friendship Hospital adds new optional functions unfamiliar to staff, thus manufacturer-provided regular technical training is planned to improve operating skills. In order to establish an appropriate O&M system for medical equipment, there is a plan to establish a medical equipment center—of which Vietnam hospitals have very few—and create a central management system with dedicated staff who will not only keep inspection and maintenance records, but also to centrally manage and deploy equipment. To achieve this, consulting services will be provided to develop a maintenance plan and to implement training as a means to strengthen the capacity of this center. With regard to the equipment maintenance budget, it has been confirmed that a gradual revision of medical fees in 2018 will be able to secure the necessary budget.

7. Plan for Future Evaluation

(1) Indicators to be Used

- 1) Bed Occupancy Rate (%)
- 2) CT scans (per year)
- 3) MRI imaging (per year)
- 4) (PDCA cycle) Administration by department
- 5) Number of clinical pathways
- 6) Patients undergoing complicated surgery (persons/year)
- 7) Percentage of newly hospitalized patients (%)
- 8) Person completing training at Cho Ray Hospital/Cho Ray Viet Nam-Japan Friendship Hospital (persons/year)
- 9) Economic Internal Rate of Return (EIRR) (%)

(2) Timing

Three years after project completion