

Evaluation Summary

1. Outline of the Project	
Country: Republic of the Philippines	Project Title: Project for Comprehensive Etiological and Epidemiological Study on Acute Respiratory Infections in Children: Providing Evidence for the Prevention and Control of Childhood Pneumonia in the Philippines
Issue/Sector: Healthcare and Medical Treatment	Cooperation Scheme: Technical Cooperation Project under the scheme of Science and Technology Research Partnership for Sustainable Development: SATREPS
Division In-Charge: Health Team 3, Health Group 2, Human Development Department	Total Cost (estimated at completion of the Project): 560,000,000 Japanese Yen
Period of Cooperation	(R/D): 1 April 2011 - 31 March 2016 (Revised): 1 April 2011 - 31 March 2017
	Partner Country's Implementing Organizations: Research Institute for Tropical Institution (RITM) Supporting Organization in Japan: Tohoku University Graduate School of Medicine
1-1. Background of the Terminal Evaluation	
<p>The Republic of the Philippines (hereinafter referred to as “Philippines”) officially requested to Japan a technical cooperation project under the scheme of the Science and Technology Research Partnership for Sustainable Development (hereinafter referred to as “SATREPS”) entitled “The Project for Comprehensive Etiological and Epidemiological Study on Acute Respiratory Infections in Children: Providing Evidence for the Prevention and Control of Childhood Pneumonia in the Philippines” (hereinafter referred as “the Project”) and Tohoku University Graduate School of Medicine (hereinafter referred as “Tohoku University”) also submitted the research proposal to the Japan Science Technology Agency (hereinafter referred as “JST”). As a result of discussion between the Ministry of Education, Culture, Sports, Science and Technology, the Ministry of Foreign Affairs (hereinafter referred as “MOFA”), the JST and the Japan International Cooperation Agency (hereinafter referred as “JICA”); it adopted the proposal officially and determined to start the five-year Project from April 2011 to March 2016.</p> <p>The Project is jointly conducted by the Research Institute for Tropical Medicine (hereinafter referred to as “RITM”) and Tohoku University to analyze the childhood pneumonia in the Philippines through etiological studies, disease burden studies, risk factor analysis and present the effective prevention and treatment by intervention studies. The Project mainly conducted at the field level in the Philippines where under-five mortality ratio is still highly suspended in 31 per 1,000 live births in the year when the Project had commenced (2011), and pneumonia is top ranked as a death cause in children.</p> <p>The Project was initially launched from April 2011 to March 2016 for the duration of five</p>	

years, but extended till March 2017 for further one year, because of a disastrous typhoon Yolanda in November 2013 in the Philippines which severely damaged the Project sites, especially in Eastern Visayas region. After the establishment of Japan Agency for Medical Research and Development (hereinafter referred as “AMED”) on 1 April 2015, all projects in the field of Infectious Diseases Control have been transferred from JST to AMED.

1-2. Project Overview

(1) Overall Goal

Mortality due to childhood pneumonia is reduced.

(2) Project Purpose

Etiology, disease burden and risk factors of childhood pneumonia are defined and effective interventions to reduce mortality due to pneumonia in children are validated.

(3) Outputs

- 1) Etiology of childhood pneumonia and respiratory infections in the selected sites is determined.
- 2) Disease burden due to childhood pneumonia is measured in the selected sites.
- 3) Risk factors for severe pneumonia in children are identified.
- 4) Interventions to reduce mortality due to childhood pneumonia are evaluated.
- 5) Research outcomes for the reduction of child mortality due to pneumonia are shared with the Philippines and international relevant organizations for policy recommendations.

(4) Inputs

Japanese Side: Total Amount 560,000,000 Japanese Yen

Japanese Experts (Long-term: Project Coordinator)	3 persons
Japanese Experts (Short-term: Researchers)	10 persons
Counterparts Training in Japan	6 persons
Provision of equipment, machinery and materials	110,000,000 Japanese Yen
Operational Expenses	130,000,000 Japanese Yen

Philippines Side:

Assignment of Counterpart Personnel (Researchers)	16 persons
Facilities, Equipment and Materials for the Project	
Operational Expenses for Utilities	

2. Evaluation Team

Members	Japanese Side		
	Team Leader	Dr. Kaname KANAI	Executive Technical Advisor to the Director General, Human Development Department, JICA

	Cooperation Planning	Ms. Akiko ITO	Deputy Director, Health Team 3, Health Group 2, Human Development Department, JICA
	Evaluation Analysis	Dr. Mahmood UI Zaman KHAN	President, Japan Soft Tech Consultants (JUST Consultants), Japan
	Team leader of the Research Study	Prof. Takeshi KURATA	Program Supervisor, AMED
	Cooperation Planning of the Research Study	Dr. Yasushi SHINTANI	Deputy Manager, Division of International Collaboration, Department of International Affairs, AMED
Philippines Side			
	Dr. Anthony P. Calibo	Officer In-Charge (OIC), Division Chief, Children Health Development, Family Health Office, Department of Health (DOH)	
	Dr. Joyce Ducusin	OIC, Director III, Family Health Office, DOH	
	Ms. Jocelyn T. Sosito	Senior Health Program Officer, Bureau of International Health Cooperation, DOH	
Period of Evaluation	From 8 to 23 November 2016		Type of Evaluation: Terminal Evaluation
3. Results of Evaluation			
3-1. Achievements/ Performance of the Project			
(1) Output 1			
<p>Geographical differences between four sentinel sites (RITM, Eastern Visayas Regional Medical Center (EVRMC), Ospital ng Palawan (ONP) and Biliran Provincial Hospital (BPH)) for the pneumonia incidence and the patterns of the causative pathogens were found out to be insignificant. Positive rate of the bacteria detection (2.5%) was low. Hence the impact as bacterial etiological agents was unclear. Etiological pathogens associated with the mortality were identified as HAdV-7, EV-D68, <i>Bordetella pertussis</i>. Respiratory Syncytial Virus (RSV) was commonly associated with the severe pneumonia. RSV specific risk factors were identified to be analyzed further. Testing not only the severe cases, also mild cases under the cohort system enabled to describe the comprehensive viral factors contributing to the acute respiratory infections.</p>			
(2) Output 2			
<p>The Project assigned two municipalities in the Biliran provinces as cohort sites. The Cohort study was conducted during the period of February 2014 to June 2016 with a total of 4,071 cohort children enrolled, 5,677 person-year observed. The incidence rate of all pneumonia detected at a health facility and household (i.e., child was not brought to any health facilities) were 331/1,000 person-year and 52/1,000 person-year respectively, thus 14% of caregivers did not take a proper action even they recognized difficulty of breathing. 70% of all pneumonia case was diagnosed at Rural Health Unit (RHU), whereas 73% of very severe pneumonia case was diagnosed at BPH.</p>			

There were eight deaths during the Project period, where three cases were due to pneumonia, in other five cases, three were from other infectious diseases and two were from non-infectious diseases. Comparison between the cohort incidence rate and Field Health Statistics Information System (FHSIS) revealed the lower sensitivity to detect pneumonia by FHSIS (37%), which may lead to underestimation for the health policies.

(3) Output 3

The Output 3 is based on the results of Output 1 and 2. Clinical manifestations such as grunting and fever, Integrated Management of Childhood Illness (IMCI) category of very severe pneumonia and bacterial pathogen are risk factors for deaths in all age groups. Cost distance (time to the facility) to RHU and lower Socio-Economic Status (SES) are identified as common risks for being contracted with pneumonia. No health seeking when child being dyspnea are potential risk identified. Duration of illness of those who did not seek healthcare has doubled compared to those who seek healthcare. Therefore, the health seeking behavior of the caregiver was selected as one of the Project's intervention targets. Age (younger than 2) and sex (female) are the specific risk factors to get RSV.

(4) Output 4

The interventions were implemented from July 2015 until June 2016 with the following three objectives: 1) IMCI+ (digital device based IMCI with pulse oximeter) by midwives to manage the patients at BHS/RHU, 2) Evaluation on the WHO new guideline for the pneumonia severity category, 3) Education on the health seeking behavior (such as when to consult, etc.) provided by Barangay Health Workers to the community. With regard to intervention 1), it was found that the introduction of IMCI+ contributed to the improvement of child pneumonia management such as improved referral capacities of health personnel. As for intervention 2), safety of the new WHO guideline was confirmed in this setting. The findings of intervention 3) will be revealed by the Project ends.

(5) Output 5

Achievements of the progress and research outcomes are shared regularly with relevant local and national health authorities including Local Government Unit (LGU) and DOH. The study results are published in several peer-reviewed internationally recognized scientific journals and presented in various international conferences.

(6) Project Purpose

New scientific findings related to prevention and control of childhood pneumonia are published in more than 10 peer-reviewed internationally recognized scientific journals. Discussions regarding the utilization of intervention package and/or recommended strategy for reducing child mortality due to pneumonia are started with the health personnel who participated in the intervention with IMCI+. In the feedback forum and the qualitative survey, positive comments on

the interventions were common, although, there was a concern on the sustainability. More detailed convincing cost-effectiveness data should be required in the recommendation.

3-2. Summary of Evaluation Results

(1) Relevance: Excellent

The Project is still consistency with the national health sector policies and development policies of the Philippines, the Japan's Country Assistance Policy for the Philippines, and with the needs of the target groups.

Targets and methods for the Project intervention were determined in December 2014, and modified due to the change in the WHO guidelines.

The Project aims to achieve its Project purpose by using advanced technical expertise and extensive experience of the Japanese Experts, an example of which includes successful introduction of microplate method developed in Sendai, Japan. The method is designed to handle many samples for virus isolation. Without this method, it was not possible to isolate many viruses.

(2) Effectiveness: Good

Five Outputs of the Project are designed to achieve the Project purpose. The Outputs of the Project have designed and structured to be proceed one after another as follows: "Etiology Studies (Output 1)" and "Disease Burden Studies (Output 2)" would be contributed interactively; "Risk factor analysis (Output 3)" is done based on the results of Output 1 and 2; and "Intervention Studies (Output 4) is finally done based on the all the findings and observations to achieve the Project purpose. The Project purpose is likely to be achieved at the completion of the Project if all remaining activities for the Outputs completed before the completion of the Project.

Retaining and continuing the cohort under the different project (Japan Initiative for Global Research Network on Infectious Disease: J-GRID) will be meaningful, specifically targeting on the RSV, and its transmission pattern in the community and the multiple infection.

(3) Efficiency: Good

The inputs are appropriately provided from both the Japanese side and the Philippines side as planned and all inputs are fully utilized to generate the intended Outputs. The quality, quantity, and timing of inputs are also appropriate.

In the general technical cooperation projects supported by JICA, human resources for the project activities shall be allocated by counterpart organizations from the aspect of human resource development. Meanwhile, day-to-day sample collection in large numbers and subsequent bacteriological testing, as well as pre-treatment and shipment of samples for further examination to the RITM have been carried out at four sentinel sites. Furthermore, the Project had conducted relatively large-scale field surveys at communities. For these reasons, it is rationale to hire staffs (medical doctors, nurses, medical technologists, Information technology personnel, etc.) by the Project for the implementation of Project activities.

Project activities are well received by the Counterpart personnel. Several kinds of trainings

for the Counterpart personnel and several kinds of feedback forums are welcomed by the participants. Most participants are satisfied with the contents, theoretical and practical methodology, duration, and skills and expertise of trainers/presenters of the trainings. However, some of the Counterpart personnel sometimes faced difficulties in attending all Project activities due to their engagement in their routine assignments in their respective organizations.

(4) Impact: Positive

Through the various Project activities, it can be said that the impact on the Overall Goal of the Project is positive.

No negative/indirect/unintended/unexpected impact has been reported.

(5) Sustainability: Expected to Some Extent

From policy aspects, it is expected that the strategies and policies for the reduction of mortality rate due to the childhood pneumonia will remain favorable.

In terms of organizational aspects, it is expected that the Counterparts could pursue relevant activities to keep Project effects after the completion of the Project.

The Counterparts must make serious efforts to secure proper funding from the concerned authorities. Therefore, financial aspects are a matter of concerns for the sustainability of Project.

Eight laboratory staff initially hired by the Project were permanently employed by the RITM after the termination of their contract with the Project. To ensure the technical sustainability of the Project, it would be necessary for the RITM to continue the technical assistance, particularly organization of different kinds of trainings and periodical updating of different kinds of manuals for the prevention and control of the childhood pneumonia.

3-3. Contributing Factors for the Implementation of the Project

(1) Concerning the project design

No specific contributing factor was observed.

(2) Concerning the implementation process of the Project

The main contributing factors are summarized as follow.

- 1) High motivation of Counterparts, particularly the decision-makers, for the participation in the Project activities.
- 2) Cooperation by the health facilities, such as hospitals, RHUs, and BHSs. The RHUs under the target municipalities had supported the Project staff to conduct the rapid assessment as well as the census by providing them household data and by accompanying them for interviews at the remote areas.
- 3) Incentive for hospital in-patient enrollment, such as free testing service and medicines, promoted enrollment.

3-4. Hampering Factors for the Implementation of the Project

(1) Concerning the project design

No specific hampering factor was observed.

(2) Concerning the implementation process of the Project

The main hampering factors are summarized as follow.

- 1) Delays in several Project activities, such as posting of the first Project Coordinator, setting-up of the laboratories and operation for the power distribution work for the back-up generators at BPH and ONP, obtaining the ethical approval by the Institutional Review Board (IRB) for the protocol and the signing of the Memorandum of Agreement (MOA) between RITM and the Biliran Province to start the census survey and the enrollment of the children for the cohort study.
- 2) A disastrous typhoon Yolanda in Philippines in November 2013 which severely damaged the Project sites, especially in Eastern Visayas region.
- 3) Limited human and financial resources of Counterparts.

3-5. Conclusions

The Project purpose is likely to be achieved at the completion of the Project if all remaining activities for the Outputs completed before the completion of the Project.

3-6. Recommendations

(1) Reflecting the evidence to the national and international policies and guidelines

The effective outcomes with scientific evidence of intervention studies should be shared with DOH for reviewing the existing strategy and guidelines. To this end, the Project should actively work with the policy making body at DOH and other stakeholders such as WHO and UNICEF to reflect them in the national policy. Though the results of intervention study on evaluation of WHO new guideline would support its safety and effectiveness, and facilitate to scale up the nation-wide introduction of the guidelines, more detailed convincing cost effectiveness data on IMCI+ is required.

(2) Collaboration between RITM and Tohoku University for Introduction of Vaccines

Though the Project will end in March 2017, research collaboration between RITM and Tohoku University will continue using the other research funding scheme. RITM and Tohoku University are recommended to continue collecting data on childhood pneumonia after the end of the Project and provide the collected data to DOH. This will be useful for introduction of new vaccines, including RSV vaccine, to the Philippines.

(3) Proper funding for continuing the Project activities

RITM and Tohoku University should make sincere efforts to secure proper funding to keep continuing the necessary Project activities, and recommend employment of the Project-hired staff to keep the Project impacts.