

Evaluation Report
2015-5

Evaluation of EDCF's Performance Indicator Improvement in the Healthcare Sector

The Export-Import Bank of Korea
(Government Agency for EDCF)

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(Evaluated by PrimeCore)

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I. Introduction

1. Purpose of Evaluation

The purpose of this evaluation is to develop a set of new standard performance indicators that are appropriate to measure EDCF's healthcare sector projects.

EDCF supports sustainable development in the healthcare sector of partner countries by providing concessional loans for medical equipment procurement and hospital renovation/construction. Just like all other EDCF projects, the results of the health sector projects are measured by standard performance indicators. However, EDCF's current performance indicators were more focused on the changes related to primary health care, resulting in the ineffective measurement of EDCF's project performance which made evaluation less relevant to the changes that the project had brought about.

2. Method of Evaluation

In order to develop a new set of performance indicators, the relevance (or irrelevance) of existing performance indicators to the characteristics of EDCF healthcare projects was assessed.

Based on the analysis, a set of candidate indicators were developed. The suggested indicators were reviewed by experts using the Delphi technique to ensure their reliability and validity. A field trial was performed to finalize the indicator set in Vietnam where many healthcare projects of various sizes had been implemented.

II. Analysis of EDCF Performance Indicators

1. Review of Existing Performance Indicators

It was apparent that the existing performance indicators did not properly reflect the purpose and activities of EDCF healthcare sector projects.

First, the existing standard performance indicators were those of primary health services, focusing on the prevention and control of infectious and waterborne diseases even though EDCF projects mainly focus on tertiary level medical services.

Second, there was a lack of a logical link connecting the output, outcome and impact indicators of the project. Some outcome indicators existed without corresponding output indicators and vice versa.

Third, the indicators were not clearly defined. For instance, terms such as the rich and the poor, basic medical services were used without any operational definition.

Fourth, there was no clear guideline for target setting. General principles for target setting are needed while targets should be specific to each project.

Fifth, the existing outcome indicators often could not be measured at the time of completion evaluation. The EDCF evaluation guideline defines “outcome” as the goal achieved at the end of each project. However, the official completion of the project was considered to be the time of output when the outcome would not be fully realized. For instance, outcome indicators of the existing standard performance indicators were designed to measure the change of health behavior and level of health status which is

difficult to measure right after the completion of the projects.

2. Review of PDM Reports

A review of 21 EDCF healthcare sector projects (11 hospital construction projects and 10 medical equipment procurement projects) with PDM was carried out to assess the applicability of standard performance indicators in evaluating the project's performance. The review result indicated that most of the existing performance indicators were largely related to primary health services and health promotion, showing the indicators were not applicable even though the indicators were included in PDM.

Table. Standard Performance Indicators

Project Result Level	Applicability	Project Performance Indicator
Impacts	Applicable	<ul style="list-style-type: none"> • Under-five mortality rate • Maternal mortality ratio • Mortality from infectious disease
	Not Applicable	<ul style="list-style-type: none"> • Number of Abortions • Prevalence of child malnutrition • Difference in mortality of high income and low income
Outcomes	Applicable	<ul style="list-style-type: none"> • Number of deaths due to HIV/AIDS • Number of gynecological surgeries • Case detection rate for all forms of tuberculosis • General availability of chemotherapy in the public health system, • Patient satisfaction level
	Not Applicable	<ul style="list-style-type: none"> • Medical service for the poor • Contraceptive prevalence rate • Immunization coverage • Offering medical treatment for infectious diseases and sexually transmitted infection • Out-of-pocket health expenditure

		<ul style="list-style-type: none"> • Public health expenditure
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There were a few indicators specific to the projects.

Table. Applicable Indicators Used in Individual Project PDM

Project Result Level	Project Performance Indicator
Impacts	<ul style="list-style-type: none"> • Mortality rate from non-communicable diseases (cardiovascular disease, cancer, etc.) • Mortality rate from infectious diseases
Outcomes	<ul style="list-style-type: none"> • Number of patients (inpatient/outpatient/emergency etc.) • Utilization of major medical equipment • Shortened waiting time • Number of transfers to upper level hospital • Cancer survival rate • Number of specific disease detection • Hospital mortality rate

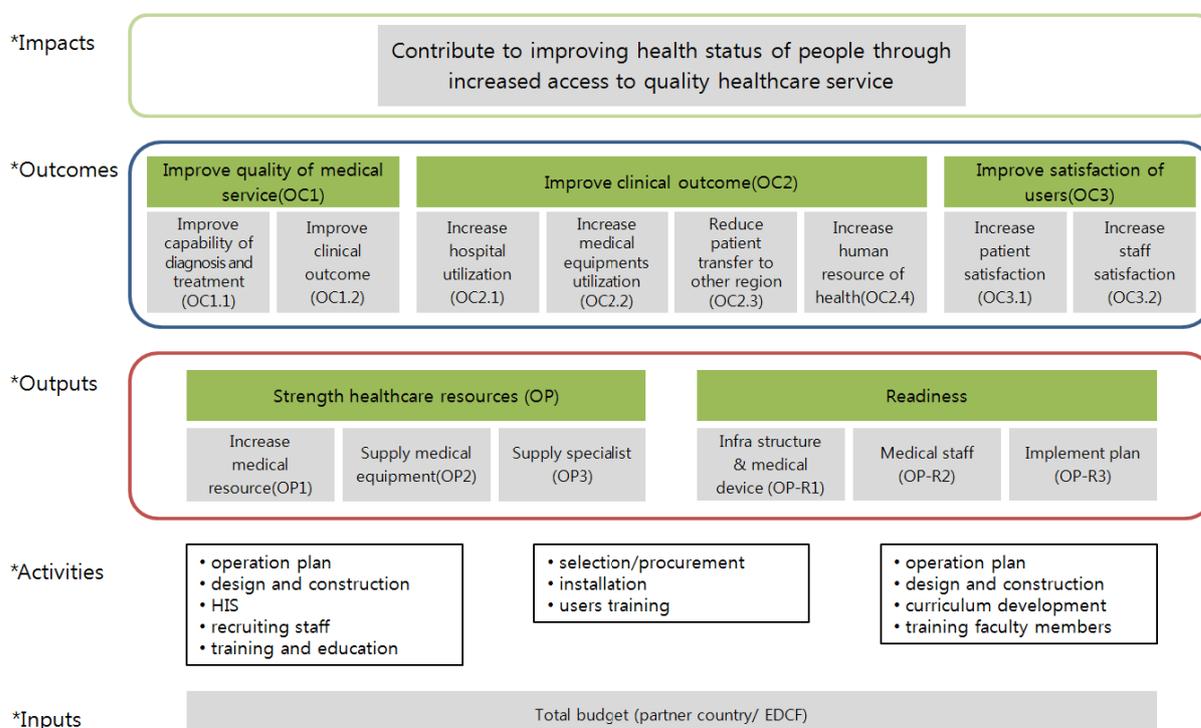
III. Development of New Performance Indicators for EDCF's Healthcare Sector Projects

1. Result Framework for EDCF's Healthcare Sector Projects

In order to develop appropriate indicators, the logical framework of EDCF's support for the healthcare sector was examined. The logical framework approach method was used for the analysis.

The problems to be addressed by EDCF's healthcare care support could be classified into three categories; excessive mortality, morbidity from both infectious and non-communicable diseases, and shortage of medical facilities.

Figure. Objective Tree of EDCF's Healthcare Sector Projects



The common goal of EDCF's healthcare sector projects was to improve the health status of the partner country's people by improving access and quality of healthcare facilities. This would also increase the patient's satisfaction level about medical care. (앞문장과 연결이 조금 부족합니다.)

2. Development Process of the New Performance Indicator List

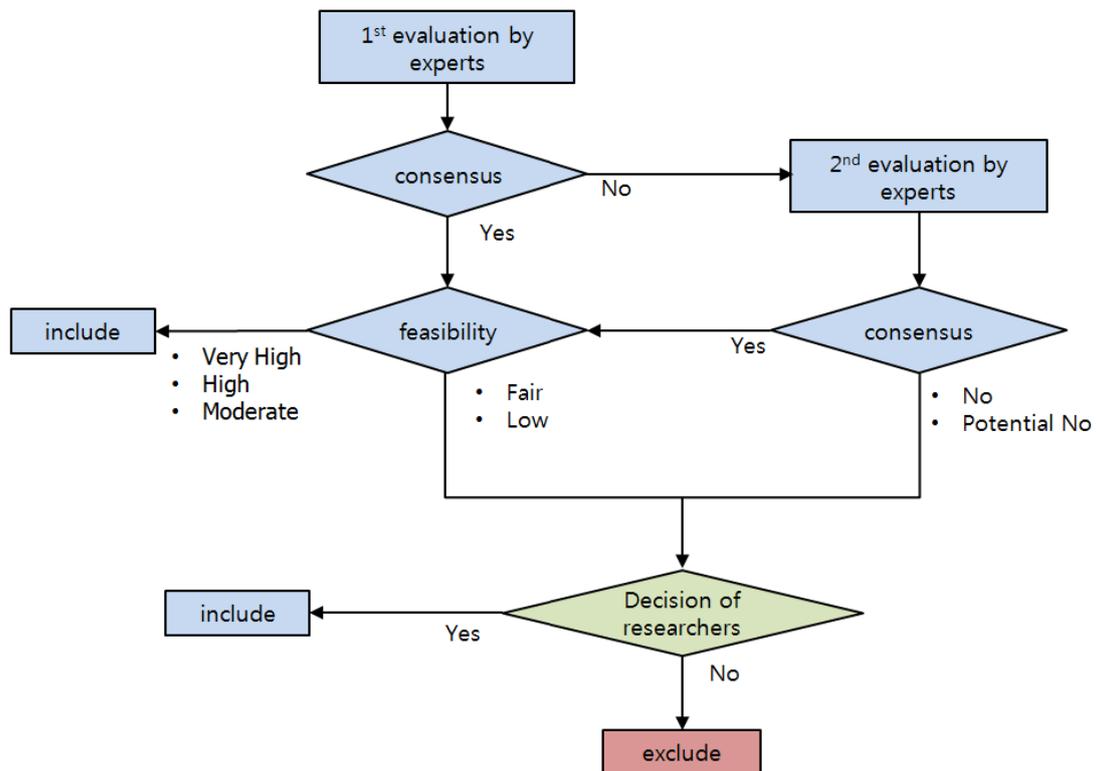
The performance indicators of international organizations such as the UN, WHO, OECD, World Bank, and ADB were reviewed. In addition, clinical quality indicators for medical service were reviewed as suggested by both international (US, UK, Denmark) and domestic (HIRA) organizations. Based on the reviews, each indicator's usability was assessed considering the result framework of EDCF's healthcare sector projects. Moreover, a list of usable indicators from the existing performance indicator pool was selected.

IV. Test of Validity of EDCF Healthcare Sector Performance Indicators

1. Delphi Survey

A Delphi survey was carried out by 13 experts in the health care sector, ODA, or performance evaluation to examine the relevance of the 1st draft of performance indicators. Based on the Delphi survey, five indicators were removed from the 1st draft of performance indicators while one indicator was added.

Figure. Consensus Procedure by the Delphi Survey



2. Field Trial

To assess the practical usability of the 1st draft of new performance indicators, a field trial of the indicators was conducted in Vietnam, which has implemented many EDCF projects in the healthcare sector.

Availability of data on the new performance indicators was checked by reviewing international organization databases, Vietnamese health statistics, and interviewing staff of the Ministry of Health and Thua Thien Hue General Hospital.

By incorporating the results of the field study and the Delphi survey, the final draft of new standard performance indicators was prepared and the measurement method was set.

V. The Final Draft of New Performance Indicators for EDCF Health Sector Projects

1. Hospital Establishment Projects

Table. Performance Indicators in EDCF's Healthcare Sector - Hospital Establishment Project - Impact Level

Impact	Indicator	Data Source	Assumption
Contribute to improving health status of people	Adult mortality rate (probability of dying between 15 and 60 years of age per 1000 population)	Statistics (WHO, Ministry of Health)	1) No rapid change in legal policy in the partner country
	Target-specific mortality rate - maternal, under-five, infant, neonatal	Statistics (WHO, Ministry of Health)	
	Non-communicable diseases Mortality rate - cardiovascular diseases, cancer, diabetes, chronic respiratory diseases	Statistics (WHO, Ministry of Health)	2) No change in the environment or climate
	Infectious diseases mortality rate - HIV/AIDS, tuberculosis, malaria	Statistics (WHO, World Bank, Ministry of Health)	3) No rapid change in population composition
	Survival rate - specific - five years survival rate : cervical cancer, breast cancer	Survey or statistics (Ministry of Health)	

Table. Performance Indicators in EDCF's Healthcare Sector - Hospital Establishment Project - Outcome Level

Outcomes	Indicator	Data Source	Assumption
Improve quality of medical service	Number of diagnostic screening - cervical cancer screening in women aged 20-69, mammography screening in women aged 50- 69, TB detection rate	Survey or statistics (WHO, Ministry of Health)	1) Maintenance of service quality and improvement by consistent input of medical sources
	Number of surgeries (procedures) - specific - coronary revascularization procedures, coronary angioplasty, hip replacement surgery, knee replacement surgery, cataract surgery,	Survey or Statistics (Ministry of Health, hospital)	2) Effective management and operating of medical facility
	Object hospital mortality (per 1,000 discharges)	Survey or statistics (Ministry of Health, hospital)	3) Secured sufficient medical staff and low turnover rate of professional (specialized) staff
Improve clinical outcome	Object hospital average length of stay in hospital	Survey or statistics (Ministry of Health, hospital)	4) Awareness improvement of constructed medical center
	Object hospital number of patients - Inpatients (total, circulatory diseases, cancers), - outpatients (total, HIV/AIDS, chemotherapy), - ER	Survey or statistics (Ministry of Health, hospital)	5) Secured medical delivery system among medical centers in the community
	Object hospital occupancy rate of curative (acute) care beds	Survey or statistics (Ministry of Health, hospital)	6) Supervising and support of medical related
	Object hospital waiting times from specialist assessment to treatment (days) - cataract surgery, hip replacement, knee replacement	Survey or statistics (hospital)	
	Number of exams (per 1,000 population)	Survey or statistics	

Outcomes	Indicator	Data Source	Assumption
	- MRI, CT	(Ministry of Health, hospital)	Government ministry 7) Continuous monitoring and improvement of medical source input and utilization
	Object hospital Waiting Times from specialist assessment to exam(days) - MRI, CT	Survey or statistics (hospital)	
	Object region Number of transfer to upper level hospital	Statistics (hospital)	
	Physicians density (per 1,000 population) * establishment of educational institution	Statistics (WHO, Ministry of Health)	
	Nursing and midwifery personnel density (per 1,000 population) * establishment of educational institution	Statistics (WHO, Ministry of Health)	
	Radiology technicians density (per 1,000 population) * establishment of educational institution	Statistics (WHO, Ministry of Health)	
Improve satisfaction of users	Satisfaction of patients	Survey (hospital)	
	Satisfaction of employees	Survey (hospital)	

Outputs			
Increase medical resource	Hospital beds (per 10,000 population)	Statistics (WHO, Ministry of Health)	1) Secured infrastructure for construction of medical center 2) Progress in appropriate source input and activity as planned 3) Sincere attitude of staff in medical center 4) Secured sufficient staff and participation
	Average age of plant	Survey (hospital)	
Supply medical equipment	Medical equipment units (per 1,000,000 population) - MRI, CT, radiotherapy	Statistics (WHO, Ministry of Health)	
Supply professional (specialized) personnel through training	Number of specialists * establishment of educational institution	Statistics (Ministry of Health)	
Readiness	Infrastructure (*power, improved water source, toilet, emergency transport)	Survey (hospital)	
	Infection control (*sterilization equipment, disposal of infectious waste, latex gloves, syringes, soap)		
	Service offered (antenatal care, delivery, sick child care under 5, sexually transmitted infection treatment)		
	% of facilities with a 24 hour emergency staff	Project completion report (hospital)	
	% of equipments (Actual/Plan)		
	% of staff training (Actual/Plan)		
% of equipments maintenance training (Actual/Plan)			
Activities			

<ul style="list-style-type: none"> · Development of medical (operating) plan · Development of design and construction plan · Recruiting and training staff (doctor, nurse, etc.) · Selection and procurement of medical supplement · Installation of medical equipment and education for users · Development of operating plan for medical staff training center (medical school, nursing school, etc.) · Education of teaching staff
Inputs
<ul style="list-style-type: none"> · Government : · EDCF : · Others :

2. Medical Equipment Procurement Project

Table. Performance Indicators in EDCF's Healthcare Sector - Medical Equipment Supply Project

Impacts			
Contribute to improving health status of people	Adult mortality rate (probability of dying between 15 and 60 years of age per 1000 population)	Statistics (WHO, Ministry of Health)	1) No rapid change in legal policy in recipient country
	Target-specific mortality rate - maternal, under-five, infant, neonatal	Statistics (WHO, Ministry of Health)	
	Non-communicable diseases mortality rate -cardiovascular diseases, cancer, diabetes, chronic respiratory diseases	Statistics (WHO, Ministry of Health)	2) No change in environment and climate
	Infectious diseases mortality rate -HIV/AIDS, tuberculosis, malaria	Statistics (WHO, World	3) No rapid change in composition

		Bank, Ministry of Health)	of population
	Survival rate – specific - five years survival rate : cervical cancer, breast cancer	Survey or statistics (Ministry of Health)	
Outcomes			
Improve quality of medical service	Number of diagnostic screening - cervical cancer screening in women aged 20-69, mammography screening in women aged 50- 69, TB detection rate	Survey or statistics (WHO, Ministry of Health)	1) Maintenance of service quality and improvement by consistent input of medical sources 2) Effective management and operating of medical facility 3) Secured sufficient medical staff and low turnover rate of professional (specialized) staff 4) Awareness improvement of medical center with medical equipment 5) Improved utilization of equipment from cooperation system among medical centers in the
	Number of surgeries (Procedures) - specific - coronary revascularization procedures, Coronary angioplasty, Hip replacement surgery, Knee replacement surgery, cataract surgery,	Survey or statistics (Ministry of Health, hospital)	
	Object hospital mortality (per 1,000 discharges)	Survey or statistics (Ministry of Health, hospital)	
Improve clinical outcome	Object hospital average length of stay in hospital	Survey or statistics (Ministry of Health, hospital)	
	Object hospital waiting times from specialist assessment to treatment (days) - cataract surgery, hip replacement, knee replacement	Survey or statistics (hospital)	
	Number of exams (per 1,000 population) - MRI, CT	Survey or statistics (Ministry of Health, hospital)	
	Object hospital waiting times from specialist assessment to exam (days) - MRI, CT	Survey or statistics (hospital)	
	Object region number of transfer to upper level hospital	Statistics (hospital)	
Improve	Satisfaction of patients	Survey	

satisfaction of users		(hospital)	community 6) Supervising and support of medical related government ministry
	Satisfaction of employees	Survey (hospital)	7) Continuous monitoring and improvement of medical source input and utilization
Outputs			
Increase medical resource	Average age of plant	Survey (hospital)	1) Secured infrastructure for medical equipment supply
Supply medical equipment	Medical equipment units (per 1,000,000 population) - MRI, CT, radiotherapy	Statistics (WHO, Ministry of Health)	2) Progress in appropriate source input and activity as planned
Readiness	% of equipment (actual/plan)	Project completion report (hospital)	3) Sincere attitude of staff using medical equipment 4) Secured sufficient staff and participation 5) Cooperation from related organization (public educational, medical industrial,
	% of staff training (actual/plan)		
	% of equipment maintenance training (actual/plan)		

			etc.)
Activities			
<ul style="list-style-type: none"> · Selection and procurement of medical equipment · Installation of medical equipment and education for users 			
Inputs			
<ul style="list-style-type: none"> · Government : · EDCF : · Others : 			