

Sector	Development strategic objectives (*)	Mid-term objectives	Sub-targets of mid-term objectives	Types of infrastructure	Standard indicator examples	Source	Policy and methods for setting indicators	Reference projects by type of infrastructure		
								Country name	Project name	FY of evaluation
Maternal and child health	1 Improving maternal and child health conditions	1-1. Improving maternal health	1-1-1. Safe childbirth	Obstetrics and gynecology facilities and equipment	Operation indicators Basic indicators (1) The number of Cesarean sections per year (*1) (2) The number of gynecological operations per year (*1) (3) The number of deliveries (4) The number (or rate) of mothers and children who have all the required number of checkups at the required time Supplementary indicators (1) The facility-based delivery rate in the target area (provided that health/hospital statistics are available) (2) The number of high-risk delivery practices (suction, forceps delivery, etc.) per year (3) The number of patients who received antenatal care/postnatal care per year (*2) (4) The number of antenatal care/postnatal care (*2) (5) The number of referrals for high-risk delivery (*3) (6) The number of ultrasound diagnoses Effect indicators Supplementary indicators (1) Maternal mortality in the target area (provided that health statistics are available)	The three operation indicators shown on the left are normally difficult to calculate in percentages because it is difficult to work out the denominator. In most cases, it is possible to consider that an increase in the number of operations or checkups is nearly equal to an increase in the number of responses to (or preventions of) high-risk delivery, after taking the population growth rate into account. "The target area" could be the area covered by the hospital, a city, etc. However, as maternal mortality is commonly calculated per 100,000 live births, it often cannot be treated as a significant statistic to see changes when the real numbers of live births and maternal deaths are small. (*1) It is applicable only to secondary hospitals or higher with operating rooms. At the health center and health post level (so-called primary level), the number of deliveries and antenatal care checkups may be used as basic indicators. However, higher number is not necessarily more appropriate, and it is necessary to set appropriate targets according to the situation. (*2) It is appropriate to use it as an indicator of the improvement of primary facilities. (*3) With regard to the number of referrals for high-risk delivery, in the case of tertiary hospitals or higher, the number of referrals to tertiary hospitals may decrease if the functions of the secondary hospitals at the lower level are strengthened through their self-help efforts. Therefore, if the number of referrals has decreased, the background should also be checked.	Vietnam	The Project for Improvement of Equipment in the National Hospital for Obstetrics and Gynecology	2009	
		1-2. Improving infant health	1-2-1. Care for the newborn and infants at health facilities	Facilities and equipment for neonatal units and pediatrics departments	Operation indicators Basic indicators (1) The number of patients at neonatal care units (2) The number of operations at pediatrics departments (3) The number of outpatients at pediatrics departments Effect indicators Supplementary indicators (1) Infant mortality rate (per 1000) in the target area (provided that health statistics are available) (2) Under-5 mortality rate (per 1000) in the target area (provided that health statistics are available)		In the case of tertiary medical facilities, it should be noted that there may be cases where the number of outpatients who can be treated at primary medical facilities increases and tertiary hospitals stop functioning properly.	The Democratic Republic of the Congo	The Project for the Improvement of Equipment at University Clinics of Kinshasa	2010
Maternal and child health	1-2. Improving infant health	1-2-2. Preventing infectious diseases in infants	Vaccines and cold chain equipment for vaccinations (refrigerators, cold boxes, vaccine carriers, etc.)	Operation indicators Basic indicators (1) The capacity of the central storage (a cold room or a freezer room) (m2) (2) The capacity of regional/district storage (m2) Supplementary indicators (1) The immunization rate for children under the age of one (average) (2) Triple immunization rate for the combination vaccine including DPT in the target area (%) (3) The frequency of transporting vaccines from the central to the local (times/year) (4) Vaccine wastage rate in the target area (the number wasted (the number procured – the number administered) ÷ the number procured) (*) (5) Cold chain penetration rate in the target area (rate of installation of temperature control system) Effect indicators Basic indicators (1) The incidence of an infectious disease subject to vaccination for children under the age of five in the target area (%) Supplementary indicators (1) Infant mortality rate in the target area (2) Under-5 mortality rate in the target area	Although the vaccination rates would not increase by improving equipment alone, the expected direct output of equipment improvement may be that the number of vaccine doses discarded would be reduced due to vaccines being stored and transported under appropriate temperature control. Equipment improvement alone would not increase vaccination rates because the success of vaccination projects largely depends on local cultural factors (such as gender) in addition to the availability of an appropriate human resource and operation cost. However, if all the factors are resolved, the incidence of the disease and mortality could become effective indicators. (*) Where the country has established a waste rate target for the vaccine, comparisons may be made with actual results.	Madagascar	The Expanded Programme on Immunization	2008		
				The Democratic Republic of the Congo Indonesia The People's Republic of China Bangladesh	The Project for the Improvement of Equipment at University Clinics of Kinshasa Regional Infrastructure for Social and Economic Development (Japanese ODA loan) Hunan Environmental & Living Conditions Improvement Project (Japanese ODA loan) Maternal, Neonatal and Child Health Improvement Project (Phase 1) (Health, Population and Nutrition Sector Development Program) (Japanese ODA loan)	2006 2002 2011				

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Infectious disease control				Laboratory development (biosafety level (BSL) 3)	Operation and effect indicators Basic indicators (1) For influenza, HIV, AMR, and other diseases that contribute to the burden of disease in the country, an increase in number of confirmed laboratory diagnoses, and a reduction in testing time will be included as indicators. [Example] Excerpt from IHR 10 core tests • Influenza PCR test completed within 24 hours • HIV serological tests completed within 5 days • Salmonella bacterial culture tests completed within 3 days (2) The number of research projects using the BSL-3 laboratory (3) The number of people authorized to use the BSL-3 laboratory or the percentage of people authorized in the subject occupation Supplementary indicators (1) Regulations on biosecurity/biosafety have been revised as necessary. (2) Biosecurity/biosafety certification is obtained (from qualified private companies, etc.) at the prescribed frequency. (3) Information security (access to inventory of pathogens and toxins, etc.) is managed as prescribed.	Basic indicators (1) IHR, JEE page 36 D.1.1 2. Supplementary indicators (1) JEE page 24 P.6.1 2. a. (2) JEE page 25 P.6.1 2. c. iv., P.6.1 3. f.,g.,h. (3) JEE page 25 P.6.1 3. b.	Wherever possible, the indicators should be aligned with international standards such as the "Checklist and Indicators for Monitoring Progress in the Development of IHR Core Capabilities in States Parties (2013)" and the "Joint External Evaluation (JEE) Tool (2016)" based on the WHO International Health Regulations (IHR; 2005), and should aim for results beyond outputs. With regard to the basic indicators (1) for the BSL-3 and BSL-2 laboratory development, those for which the number of tests does not increase significantly unless an outbreak occurs are excluded from the scope. The indicators are established after identifying diseases that are unrelated to outbreaks and have always occurred to a certain extent, but for which there are currently few confirmed cases due to lack of laboratory development. Although it is expected that both basic indicators and supplementary indicators will be difficult to achieve through grant aid projects alone, they are all important indicators from the perspective of the effective use of facilities and equipment that have been developed. Therefore, we will actively consider implementing the necessary soft components and technical cooperation to achieve these indicators. In particular, with regard to supplementary indicators (1) to (3) for the BSL-3 laboratory development and supplementary indicators (1) for the BSL-2 laboratory development, it is desirable to establish institution-specific operational standards, etc., after the development of legislation for the entire country. However, if this is difficult, only the provisions at the institution level are acceptable.	The Democratic Republic of the Congo	The Project of Improvement of National Institute for Research and Biomedical	2017
				Laboratory development (BSL-2)	Operation and effect indicators Basic indicators (1) Basic indicators (1) for the BSL-3 laboratory development Supplementary indicators (1) Regulations on biosafety have been revised as necessary. (2) External quality control has been established with superior institutions including overseas.	Basic indicators (1) IHR, JEE page 36 D.1.1 2. Supplementary indicators (1) JEE page 25 P.6.1 2. b. (2) JEE page 36 D.1 1 4.		The Republic of Honduras	The Project for Construction of National Laboratory of Health Surveillance	2016
				Laboratory development (referral system development)	Operation and effect indicators Basic indicators (1) The number of laboratories that function as public health laboratories is x. (2) The type of disease for which the test is referential is x. Supplementary indicators (1) The percentage of patients with suspected disease whose specimens were transferred to public health laboratories is x%. (2) The percentage of samples for which the national laboratory has notified the results (including periodic reports) is x%. (3) The percentage of laboratories with external quality control is x%.	Basic indicators (1) Original (2) JEE page 36 D.1.1 2. Supplementary indicators (1) JEE page.36 D.1.2 2. (2) JEE page 37 D.1.4 (3) IHR page 42 Appendix 12.1		Nigeria	The Project for Strengthening the Capacity of Network Laboratories of the Nigeria Centre for Disease Control	(Under feasibility study)
Infectious disease control	1 Measures against HIV	1-1. Preventing HIV infection	1-1-1. Strengthening the testing systems and improving access to testing	Rapid test kits for HIV	Operation and effect indicators Basic indicators (1) The number of people who received HIV testing in the target area Supplementary indicators (1) The number of people who received training to perform rapid diagnostic tests in the target area (Currently, lay provider testing is recommended in WHO guidelines.)		It should be noted that the "impact indicators" and "outcome indicators" in JICA's grant aid projects do not necessarily correspond to the international definitions in the field of infectious diseases. Although it is expected that the supplementary indicators will be difficult to achieve through grant aid projects alone, they are important indicators from the perspective of the effective use of the test kits to be developed. Therefore, we will actively consider implementing the necessary soft components and technical cooperation to achieve the indicators.	Kenya	The Project for HIV/AIDS Control	2014
					Effect indicators Basic indicators (1) The number of patients with HIV-related illness treated in the target area (people/year) (However, whether to set it as an impact level or as an outcome level should be selected according to the content and scale. Qualitative indicators should also be considered.)					
		1-2. Treatment of AIDS	1-2-1. Strengthening AIDS treatment systems at health facilities	The installation of related equipment (such as CD4 count machines) (a type of hospital equipment)	Operation indicators Basic indicators (1) The number of times CD4 count machines that are used (times/year) (2) The number of virus measurement equipment that are operated (times/year) Effect indicators Basic indicators (1) The number of subjects for which treatment is controlled with viral load monitoring		The precondition for treatment is that the appropriate doses of ARV (antiretroviral) drugs are in stock in an appropriate condition.			

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Infectious disease control	2. Tuberculosis control	2-1.Improving implementation capacity	2-1-3.Strengthening logistics capacity	Anti-TB drugs and reagents for TB diagnosis	Operation and effect indicators		The preconditions for the implementation of DOTS are the supply of anti-TB drugs, reagents for TB testing, etc. as well as the availability of technicians. The number of new patients (the number of positive cases detected), the number of relapsing patients registered, etc. often increase through the appropriate implementation of DOTS. It should be noted that the "impact indicators" and "outcome indicators" in JICA's grant aid projects do not necessarily correspond to the international definitions in the field of infectious diseases.	Myanmar	The Project for Equipment Provision for the National Tuberculosis Programme	2010
								The People's Republic of China	The Project for Tuberculosis Control in Poor Areas (Phase 3)	2008
		2-2. Improving the capacity to control drug-resistant TB	2-2-2. Improving the capacity (diagnosis, research and treatment) to control MDR-TB (multidrug-resistant tuberculosis)	The improvement of TB wards, the installation of TB culture laboratories	Operation indicators Basic indicators (1) The number of cultures performed at the laboratories (and/or drug susceptibility testing) (2) The number of drug-resistant patients with confirmed biological diagnosis Supplementary indicators (None of which is directly related to increased capacity to control drug-resistant TB.) (1) The hospital bed occupancy rate (%) (2) The number of imaging tests per year (for maintenance of X-ray equipment)	The increase in the number of cultures performed could lead to improvements in the ability to diagnose in the laboratories.	Afghanistan	The Project for Construction of Hospital for Communicable Disease	2010	
	3 Malaria control	3-1. Prevention of malaria infection	3-1-1. Strengthening measures to control infection routes and sources of infection	Long-lasting insecticidal mosquito nets (LLIN), agent kits	Operation indicators		Compiled from the Global Fund indicators. LLINs should be distributed to each household. Note that infants, and expectant and nursing mothers can only use ITNs if there is more than one ITN in each household, in many cases. Therefore, this is first checked with (1), and the actual usage is checked with (2).	Zambia	The Project for Malaria Control	2006
								Malawi	The Project for Malaria Control	2003
		3-2. Strengthening the rapid diagnosis and treatment systems	3-2-1. Improving testing and diagnostic capacities	Rapid diagnostic test kits, microscopes and related equipment	Operation and effect indicators Basic indicators (1) The number of rapid malaria diagnoses performed at primary health facilities per year (2) The number of microscopic diagnoses performed at primary health facilities per year	The implementation of rapid diagnosis at primary health facilities that are easy for local residents to access can lead to prompt treatment. In addition, there are many people who receive treatment without being diagnosed in reality. Therefore, unnecessary treatment and misdiagnosis are common, but this will be improved by the spread of rapid diagnosis. However, this measure could result in an increase in the number of patients and infected people diagnosed.	Niger	The Project for Malaria Control	2008	
	3-2-2. Strengthening systems for appropriate treatment		Medicines, vehicles for transporting medicines	Operation indicators		Prompt treatment is essential in order to reduce mortality. This requires improved access to medicines because it will increase the number of patients treated.	Myanmar	The Project for Malaria Control	2008	
1 Capacity building for HRH	1-2. Development of highly qualified HRH		1-2-1. Quantitative and qualitative improvement of training for HRH	Facilities and equipment for training schools for HRH	Operation indicators		Projects for improving training facilities for HRH usually involve renovation of deteriorating schools and/or expansion of schools that became too small for their activities, accompanied by the installation of training equipment. The direct effect of these projects is improvement in the learning environment, which is a precondition for students to receive high-quality training.	Nicaragua	The Project for Improvement of Education Equipment of Nursing	2009
									The Democratic Republic of the Congo	The Project for the Improvement of the Health Personnel Center in Kinshasa

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Health system			1-2-2. Improving technical skills of new and current health personnel	Equipment for clinical practice at health facilities	Operation indicators Basic indicators (1) The number of clinical practice sessions for students at health facilities (times/year) (2) The number of clinical practice sessions for current health personnel at health facilities (people/year) (3) The number of trainees hosted at health facilities (people/year)		More trainees can attend clinical practice through improvement in the clinical practice environment in health facilities (improvement of observation spaces for delivery rooms and operating theaters, equipment for clinical practice, etc.).	Zambia	The Project for the Improvement of the Medical Equipment of the University Teaching Hospital	2009
			2 Improving access to health services	2-1. Improving access to medical facilities and improving the quality of services	2-1-1. Qualitative and quantitative improvement of secondary and tertiary medical services	The construction of hospitals and improvement of equipment	Operation indicators (*1) Basic indicators (1) The number of hospital beds (unit: beds) (2) The number of tests performed (tests/year) (3) The number of operations (operations/year) (4) The number of outpatients (people/year) (5) The number of inpatients (people/year) Supplementary indicators (1) The time required to access medical institutions (2) The number of patients referred from lower-level medical facilities (people/year) (*2) (3) Reduction in waiting time at higher-level medical facilities		"The number of hospital beds" should be judged based on whether or not the number of hospital beds has reached an appropriate level in light of the standards, because existing hospitals may have packed more beds than the standard. "The number of tests performed" is unclear which of diagnostic imaging (X-rays, ultrasound, etc.) and biochemistry (blood tests, urine tests, etc.) is referred to and must be defined in advance. For the number of tests performed, the type of tests covered depends on the function of the hospital, so it is appropriate to set the number of tests performed for each type of test. In the case of equipment projects under ODA Grants, the number of inspections using maintenance equipment such as X-ray machines and endoscopes was used as an example of the indicators. (*1) As it is difficult to verify the causality of this item, there are many cases where certain difficulties are involved in setting an effect indicator. If, as a result of the examination, it is judged that it is difficult to set an indicator, it may not be necessary to set an effect indicator. An increase in the number of hospital beds and operating rooms and upgrading of aging or malfunctioning equipment will improve the testing and treatment systems. (*2) Upgrading secondary hospitals will contribute to reduce waiting times at neighboring tertiary hospitals because the secondary hospitals can receive more patients referred from primary medical facilities as well as patients who used to directly visit tertiary hospitals as outpatients. In the case of tertiary hospitals or higher, the number of referrals to tertiary hospitals may decrease if the functions of the secondary hospitals at the lower level are strengthened through their self-help efforts. Therefore, if the number of referrals has decreased, the background should also be checked.	The Philippines
Health system	2 Improving access to health services	2-1. Improving access to medical facilities and improving the quality of services	2-1-2. Qualitative and quantitative improvement of primary medical services	The improvement of primary health facilities using grant aid for community empowerment	Operation indicators Basic indicators (1) The number of deliveries (2) The number of antenatal care (3) Travel time of target population to medical facilities (4) The average radius of the catchment areas of primary health care facilities in the target area (km) (5) The number of outpatients (medical examination and vaccination) (*) Supplementary indicators (1) The number of medical examinations received per resident in the target area per year (unit: times) (*)		(*) These indicators should be used provided that medical personnel and drugs and medicines are allocated at primary health-care facilities.	Ghana	The Project for the Development of CHPS Infrastructure in the Upper West Region	2012
			2-2-1. Improving the patient transportation systems and preparedness for receiving patients in emergencies	The improvement of ambulances, and equipment and facilities for the emergency department at hospitals	Effect indicators Supplementary indicators (1) Maternal mortality rate in the target area (2) Under-5 mortality rate (provided that health statistics are available)		The reduction of the number of maternal deaths and the deaths of children under the age of 5 requires a means of emergency transportation to higher-level hospitals in many cases.			
Health system	2 Improving access to health services	2-2. Strengthening the emergency care systems			Operation indicators Basic indicators (1) The number of ambulances dispatched Supplementary indicators (1) The number of patients taken by ambulance in the target area to relevant hospitals (2) The number of requests from patients on ambulance dispatch (*)		An increase in residents' awareness of ambulances will increase the chance of appropriate use of them for emergency transportation. Both data collected at hospitals receiving patients and the number of times ambulances were dispatched should be looked at. (*) The number should be counted for each emergency station.	Syria	The Project for Upgrading Emergency Services	2008
									Albania	The Project for the Improvement of the Medical Equipment of the Regional Level Emergency Centers

(*) Development strategic objectives which do not apply to any grant aid projects are omitted. Mid-term objectives and sub-targets of mid-term objectives which do not apply to grant aid projects were also omitted.