



Polio Eradication and Expanded Program on Immunization (EPI)

Summary

- Achieving polio eradication has reached the last mile, while transition to improving the EPI system after polio eradication is on-going as is solving remaining Polio issues.
- JICA has promoted EPI, including polio eradication, with activities such as enhancing program management, surveillance, vaccine logistics, cold chain management, social mobilization and provision of vaccines.
- JICA will continue polio eradication efforts with countries and development partners until its realization, and extend strengthening of health system, improvement of access to immunization services and their quality, and social mobilization, with the use of knowledge and experiences gained through polio eradication activities.

Overview

Smallpox was declared eradicated in 1980, poliomyelitis is being eradicated from the globe, and measles, known as one of main causes of under-5 mortality, are all preventable by effective vaccines and are called vaccine preventable diseases (VPD).

The global smallpox eradication program started as a resolution of the World Health Assembly (WHA) in 1966. Since significant progress of the smallpox eradication program was observed, the Expanded Program on Immunization (EPI) was launched at WHA in 1974 to extend its achievement to the immunization of other VPD.

At WHA in 1988, Poliomyelitis, which then caused paralysis in over 1000 children every day, was targeted to be eradicated after the success of the smallpox eradication. Global Polio Eradication Initiative, a Public-Private Partnership led by WHO, Rotary International, US-CDC, UNICEF, and Bill & Melinda Gates Foundation, developed the Polio Eradication and Endgame Strategic Plan 2013-18. Countries that later endorsed the Plan at WHA, have been conducting 1) detection of viruses and interruption of their transmission, 2) strengthened routine immunization and cessation of oral polio vaccines, 3) containment of virus, 4) use of assets of polio eradication activities. A total of 22 wild polio cases were confirmed in 2017, and three countries, Afghanistan, Pakistan, and Nigeria, are categorized as endemic. Circulation of vaccine derived polio viruses and transition to strengthen EPI system after polio eradication are examples of the remaining issues.

Table: Goals and some global targets on GVAP

Goal	Target by 2020
Achieve a world free of poliomyelitis	-Certification of poliomyelitis eradication (by 2018)
Meet global and regional elimination targets	-Measles and rubella elimination in at least five WHO regions
Meet vaccination coverage targets in every region, country and community	-Reach 90% national coverage and 80% in every district or equivalent administrative unit with all vaccines in national program, unless otherwise recommended.
Develop and introduce new and improved vaccines and technologies	-All low- and middle-income countries have introduced one or more new or underutilized vaccines -Licensure and launch of vaccine or vaccines against one or more major currently non-vaccine preventable diseases
Exceed the MDG 4 target for reducing child mortality	-Exceed the MDG target 4.A for reducing child mortality

“Global Vaccine Action Plan (GVAP) 2011-2020” containing actions against VPD including polio, developed by WHO, GAVI alliance and others, was endorsed at WHA in 2012. Based on GVAP, countries aims for 1) achieving “polio-free,” (zero cases) 2) global and regional elimination¹ of some diseases 3) an increase in vaccination rates 4) new vaccine introduction.

For GVAP implementation, countries are requested to take leadership in, say, allocating financial and human resources, and to conduct an immunization program, and WHO is requested to enhance support to member states.

1: The absence of disease below certain level that does not cause a public health problem

Cooperation Policy

[Polio] Since the WHA resolution of polio eradication in 1988, JICA has provided technical cooperation for EPI, including polio eradication, to 11 countries as well as pacific island countries, a number of grant aids worldwide, and ODA loans to Pakistan and Nigeria since 2011. As JICA has provided technical and financial support to eradicate polio for a long time and the aid was highly acknowledged, JICA will continue to support the polio eradication efforts as well as strengthening routine immunization in endemic countries. When JICA plans to provide polio vaccines, a support plan is carefully considered, reflecting the introduction of Inactivated Polio Vaccines (IPV) in stages according to polio Endgame strategy.

[EPI] JICA has promoted EPI through activities such as enhancing program management, surveillance, vaccine logistics, cold chain management, and social mobilization. To increase routine immunization coverage, a number of issues still remain. The reduction of incidences of measles, rubella, and tetanus is one such urgent issue. Thus, areas of support needing consideration to enhance program performance are low vaccine coverage and high dropout rate. A combination of approaches, such as health systems strengthening, improvement of access to immunization services and their quality, and social mobilization, should be considered from the perspective of the circumstances. Vaccine logistics and cold chain management that have been conducted in many EPI-related projects are to be included as a soft component of grant aid since the needs of independent full-scale inputs to those fields are decreasing. Support experiences and sustainability are considered when vaccine provision is requested.

Cases

[Pacific Island Countries: EPI was promoted in collaboration with development partners by technical cooperation]



Cold chain equipment provided to store vaccines

Countries in the Pacific have conducted EPI since 1977 to promote child health. After the achievement of “polio-free” in this area in 2000, measles and hepatitis B control were prioritized. Following this, promotion of vaccine management, establishment of cold chain, and safe disposal of used needles and syringes were identified as arising issues for EPI. JICA has conducted technical cooperation in 13 countries in the Pacific from 2005 to 2014, in line with the regional framework of the Pacific Immunization Programme Strengthening (PIPS), in collaboration with partners including WHO, UNICEF, Australia, New Zealand, and USA, etc., to address these issues. The Project has supported training programs, facilitated setting guidelines in the region, and established sustainable EPI system, which resulted in contributing to enhancing EPI management.

[Vietnam: vaccine production was established for measles and rubella by technical cooperation/grant aid]

The WHO Western Pacific Region, in which Vietnam resides, was confirmed “Polio-free” in 2000. Thus, control of measles, which infected quite a number of people and caused high child mortality, became the next important target in EPI. Therefore, a collaboration was planned by three parties: Vietnam, which wanted measles vaccine production, Japan, which gained commitment from vaccine production company Kitasato Daiichi Sankyo Vaccine Co., Ltd., and WHO, which wanted measles control in Vietnam and nearby countries. Grant aid to build a vaccine production facility was provided in 2002-03 to a public vaccine manufacturer, Center for Research and Production of Vaccines and Biologicals (POLYVAC), and technical cooperation to produce GMP² compliant vaccines was carried out (2006-10). WHO enhanced the National Regulatory Authority (NRA) for vaccines in parallel. As a result, high quality measles vaccines have been in use since 2009. Regarding the measles outbreak in 2014, a number of vaccines were produced rapidly to contribute to early containment of infections. To enhance VPD control further, technical cooperation to produce measles-rubella (MR) combination vaccines was conducted in 2013-18. MR vaccine was approved in 2017 and has been used domestically since 2018.



Training on bulk vaccine production in Japan

2: GMP: Good Manufacturing Practice. Guidance and standard operations on manufacturing to assure the quality of products such as pharmaceuticals.