The USAID | DELIVER PROJECT, Task Order 4, is funded by the U.S. Agency for International Development (USAID) under contract number GPO-I-00-06-00007-00, order number AID-OAA-TO-10-00064, beginning September 30, 2010. Task Order 4 is implemented by John Snow, Inc., in collaboration with PATH; Crown Agents USA, Inc.; Eastern and Southern African Management Institute; FHI 360; Avenir Health for Development, LLC; LLamasoft, Inc; The Manoff Group, Inc.; Imperial Health Sciences; Asociacion Benefica PRISMA; and VillageReach. The project improves essential health commodity supply chains by strengthening logistics management information systems, streamlining distribution systems, identifying financial resources for procurement and supply chain operation, and enhancing forecasting and procurement planning. The project encourages policymakers and donors to support logistics as a critical factor in the overall success of their healthcare mandates.

**Recommended Citation**

**Abstract**
This report summarizes the work carried out by the USAID | DELIVER PROJECT in Indonesia from 2009–2016. The project provided technical assistance in malaria prevention and treatment by strengthening the health supply chains and improving the environment for commodity security.

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Cover photo: Health care worker examining infant at health center in Indonesia. USAID | DELIVER PROJECT.

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Project Overview and Context
The USAID | DELIVER PROJECT, in partnership with ministries of health and other organizations, improves health outcomes in developing countries by increasing the availability of health supplies. For more than 30 years, USAID has been a world leader in providing health commodities to field programs—a critical component of health program success.

Between 2008 and 2012, the project provided technical assistance to mitigate existing and emerging health threats in Indonesia, supporting national influenza-like illness and severe acute respiratory illness programs.

Since fiscal year 2013, the project supported disease-specific programs within the Ministry of Health (MOH), including the National Tuberculosis Program (NTP) and the HIV/AIDS Program, through interventions and technical support for the supply chain management of health commodities.

The project fostered partnerships with the central and local governments and international and national organizations to strengthen supply chains and ensure availability of health commodities.

Project Overview

- Supported National Tuberculosis and HIV/AIDS Programs (2013–2016)
- Collaborated with central and local governments and international and national organizations (2008–2016)
The USAID | DELIVER PROJECT’s presence in Indonesia for more than eight years enabled the project to provide technical assistance to the MOH in a variety of areas and in alignment with national health priorities. Between 2008 and 2012, the project supported Indonesia’s fight against existing and emerging health threats by procuring, stockpiling, and aiding distribution of outbreak response commodities. Starting in fiscal year 2013, the project supported the NTP and the HIV/AIDS Program in the management of health commodities.

The project strengthened the NTP’s abilities to diagnose cases of TB and multidrug-resistant TB (MDR-TB) by implementing an innovative pilot that increased the efficiency of TB specimen transport from district health centers to provincial laboratories. In conjunction with the HIV/AIDS Program, the project conducted an HIV and AIDS supply chain management (SCM) decentralization pilot to support Indonesia’s efforts to expand health care coverage for people living with HIV. Additionally, the project facilitated the development of the country’s new Drug Management Strategy.

Recognizing the critical role of human resources in ensuring strong supply chains, the project supplied leadership for the People that Deliver (PtD) Global Initiative and the Indonesia PtD Forum. The project collaborated with the public sector, international, and national organizations, and across various levels of the national health system to build supply chain human resource capacity and to improve coordination among partners, to ensure that each entity has the SCM knowledge, skills, and equipment to meet national public health objectives.

The project’s investment in technical assistance to Indonesia totaled $5.7 million, and its investment in commodity support totaled $6.5 million.
Highly pathogenic avian influenza (AI) has been endemic in Indonesia's poultry population, which includes more than 40 million birds in commercial and backyard flocks. As of 2009, AI had been identified in 31 of the country’s 33 provinces and caused approximately 10 million known poultry deaths annually.

The project provided various forms of technical assistance to support Indonesia's MOH and Directorate of Animal Health within the Ministry of Agriculture. Technical assistance included procurement of AI vaccines, cold chain equipment, laboratory supplies, and ancillary supplies; logistics system design and implementation; training in cold chain and vaccine management; and routine monitoring and supportive supervision.

The project also supported the creation and institutionalization of a vaccine logistics training team within the Ministry of Agriculture.
Indonesia has been experiencing a rapidly growing HIV epidemic, with an estimated 480,000 people living with HIV. The epidemic is largely concentrated among groups at risk, including people who inject drugs, sex workers and their clients, men who have sex with men, and people who are transgender.

With the project’s assistance, the National HIV/AIDS Program piloted an SCM decentralization model to facilitate the district-level availability of antiretrovirals (ARVs). With assistance from the project and the Global Fund to Fight AIDS, Tuberculosis, and Malaria, this effort will be expanded to 11 provinces in 2016 and 2017. The **MOH’s overall goal is to implement an adapted version of the SCM model in 23 provinces within three years.**
Indonesia is considered a “high burden country” for TB by the World Health Organization (WHO) because it accounts for a disproportionately high percentage of global TB infections. The country has approximately 297 cases per 100,000 population; about two percent of which are MDR-TB (WHO 2013).

A key focus of our work was on laboratory diagnosis of TB and MDR-TB, which is essential to improving case detection, diagnosis, and ultimately treatment of the disease. As reliable laboratory testing depends on many factors, interventions emphasized improving the quality of specimens collected, laboratory testing procedures, storage conditions, and mode of specimen transport to laboratories.

Tuberculosis in Indonesia

The project focused on strengthening laboratory logistics systems and management and TB specimen transportation in support of Indonesia’s efforts to strengthen case detection and diagnosis capacity.
Technical Assistance Overview

Delivering high-quality health care to patients and clients requires health facilities and dispensaries to have a full supply of medicines and other health products. This necessitates a well-functioning supply chain.

Using best practices and innovative approaches, the USAID | DELIVER PROJECT develops and implements robust logistics solutions, fosters supportive commodity security environments, procures and ships health commodities, and partners with local organizations to build sustainable capacity.

In Indonesia, these interventions included——

**Strengthen Logistics System Performance**
- Procure commodities to control emerging pandemic threats
- Develop and implement TB laboratory logistics manual
- Pilot an innovative TB specimen transport method

**Increase National Commitment to Commodity Security**
- Establish *Indonesia People that Deliver Forum*
- Facilitate development of national Drug Management Strategy

**Build Sustainable Capacity**
- Support implementation of decentralized HIV and AIDS supply chain management model
Strengthen Logistics System Performance

To improve health outcomes in the countries where we work, the USAID | DELIVER PROJECT increased the availability of health products by strengthening supply chains and creating global commitment. These efforts were guided by the project’s supply chain integration framework.

In the public health context, an integrated supply chain links everyone involved in managing essential health commodities into a cohesive supply chain management organization, ultimately helping clients access quality health care services and supplies.
Procure Commodities to Control Emerging Pandemic Threats

The project shipped 42 million doses of AI vaccine and facilitated 256 deliveries of commodities to 16 districts thus contributing to the reduction of EPT impact.

The MOH and DAH of the Ministry of Agriculture, in partnership with the Food and Agriculture Organization of the United Nations, US Centers for Disease Control and Prevention (CDC), USAID, and World Bank, led the nation’s efforts to control AI. From mid-2008 through 2011, the project supported these efforts by procuring vaccines, cold chain equipment, laboratory supplies, and ancillary supplies—needles, syringes, and safety boxes for sharps disposal.

During 2008–2009, the project procured more than 42 million doses of AI vaccine, and facilitated 256 deliveries of commodities to 16 districts.

Additionally, in each year between 2008 and 2011, the project procured an average of 150 laboratory items at a total annual cost of US$300,000 for CDC and MOH. The project’s supply chain management efforts focused on districts in the provinces of Central Java, Jakarta, and West Java.

The efficient and timely procurement of vaccines and related supplies improved availability of commodities and services and supported AI control in Indonesia.
Develop and Implement TB Laboratory Logistics Manual

In 2014, in partnership with the microbiology laboratory unit of the MOH, NTP, and TB CARE, the project conducted a series of activities to strengthen Indonesia’s TB laboratory logistics systems and practices. USAID-funded TB laboratory logistics assessments were performed in six microbiology laboratories in the cities of Bandung, Jakarta, Medan, and Semarang.

The assessment revealed the need for a generic laboratory logistics manual.

Following the assessments, the project worked with partners to revise and adapt an existing laboratory logistics manual that was available in the Bahasa Indonesia language. A group of stakeholders developed the generic laboratory logistics manual at a workshop.

Between October 2014 and January 2015, four TB laboratories in Denpasar, Jakarta, Palembang, and Semarang adapted the generic manual to their needs.

Following standard operating procedures, as established in the generic laboratory logistics manual, improved laboratory operations.
Pilot an Innovative TB Specimen Transport Method

Improving Diagnosis through public/private partnerships

Challenge TB to design a new method to transport TB sputum specimens from district primary health facilities (community health centers) to provincial GeneXpert laboratories.

The new TB specimen transport method was implemented on a pilot basis in February 2015 and will continue until August 2016. The pilot area includes 16 districts within eight provinces. The new arrangement uses private sector commercial courier agencies to transport the specimens.

After the first four months of the pilot, the speed and reliability of transport between primary health care facilities and laboratories improved. In early 2016, the MOH began to adapt the system for broader use in multiple provinces.

After sputum specimens are collected from individuals who have TB infection symptoms, the specimens must be transported for analysis to laboratories that are equipped with the GeneXpert equipment. Efficient and timely transportation of the specimens is vital to the processes of case detection, diagnosis, and treatment.

In 2015, the project partnered with Indonesia’s NTP, the microbiology laboratory unit of the MOH, WHO, and...
Increase National Commitment to Commodity Security

Commodity security exists when every person is able to choose, obtain, and use quality health products whenever s/he needs them. Strong supply chains alone cannot ensure availability of or access to these commodities.

To help countries create an enabling environment for commodity security, the USAID | DELIVER PROJECT, in collaboration with its counterparts, undertook a variety of policy and advocacy activities at the global, regional, and country levels.
Establish the **Indonesia People that Deliver Forum**

**Improved Communications and Information Sharing Builds Stronger National Supply Chains**

People that Deliver (PtD) is a partnership that builds global and national capacity to implement evidence-informed approaches to plan, finance, develop, support, and retain the workforce needed for effective, efficient, and sustainable health supply chain management.

Indonesia has been one of seven focus countries for PtD. In April 2013, the MOH established the Indonesia People that Deliver Forum. This forum was inaugurated at the National PtD Congress, held in Jakarta and supported by USAID funding and technical assistance from the project. Participating organizations included the Pharmacy Director General, MOH, WHO, TB CARE, CHAI, and PtD.

The MOH also developed a provincial PtD network to advocate for supply chain strengthening at various levels of the national health system. Over the last four years, the Indonesia PtD Forum has conducted seven provincial PtD network meetings with technical support and financial assistance from the project, USAID, and WHO. Each of the seven meetings included representation from at least 31 of the 34 provinces. An information technology system for provincial PtD network communications based on the Knowledge Gateway has been developed.

The MOH has leveraged the PtD initiative to foster stronger supply chain management commitments, communications, and capacity building across the various units and departments of the MOH and the health system.

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**Increase National Commitment to Commodity Security**

- **HR for SCM**
  - Engaged stakeholders
  - Optimize policies and plans
  - Workforce development
  - Increase performance
  - Professionalize SCM

National Drug Management Strategies Improve Commodity Availability

The project collaborated on the development of the national Drug Management Strategy 2014–16 with the MOH, Directorate General of Pharmaceutical Services and Medical Devices, and the Directorate of Public Medicine and Health Supplies.

In mid- and late-2013, the project facilitated workshops to allow a broad range of stakeholders to provide input for the strategy. The Ministry has been actively revising the strategy since March 2014. The strategy consists of five drug management components: planning, procurement, storage, distribution, and utilization. It is supported by three management system components: drug management information, drug quality assurance, and human resources.

The government spearheaded development of the strategy to enable a comprehensive approach to strengthening programmatic drug management.
An essential component of a robust health supply chain is the staff that implements logistics tasks. To run effectively, public health supply chains require motivated, trained, and skilled staff who are competent in the various essential logistics functions and who are also empowered to make decisions that improve health supplies and supply chains.

The goal of the USAID | DELIVER PROJECT’s capacity-building activities was to strengthen human resources in public health supply chain systems in the developing world. A focus on developing a superior workforce allows organizations and individual staff to accomplish their customer service goals, ensuring higher performance among public health personnel and, therefore, increased availability of contraceptives and other essential health products.
HIV and AIDS Supply Chain Management Decentralization

Ensuring Commodity Availability at District Level

To ensure availability of HIV/AIDS commodities at the district level, the project supported the national HIV SCM Team in planning and implementing a decentralized HIV/AIDS SCM system between August 2014 and September 2015. This HIV/AIDS SCM team included representatives from the National HIV/AIDS Program, Public Medicine Directorate, MOH, WHO, CHAI, as well as from civil society organizations and district-level entities.

The pilot was implemented in 12 district health offices in the provinces of Bali and Riau Islands; foundational SCM activities were implemented at the district level to support the pilot: self-assessments, improvement plans, ARV forecasting, ARV distribution, good storage practices, and distribution of ARVs to district hospitals and health centers.

This HIV/AIDS SCM decentralization model was modified based on lessons learned from the pilot, and is being launched by the MOH in 11 provinces and approximately 34 high-priority districts in 2016 and 2017, followed by another 20 provinces in the next two years.
The Way Forward
The Way Forward

Expanding HIV and AIDS Program Coverage
Currently, only an estimated 22 percent of people living with HIV in Indonesia have access to appropriate health services and commodities. The National HIV/AIDS Program needs to be expanded significantly. Increasing program coverage may be facilitated by the decentralization of services and the introduction of treatment at community health centers.

A corresponding decentralization of the ARV supply chain is also needed to ensure that the necessary commodities are available at the district level. Ensuring that district health offices adhere to good SCM practices for the forecasting, storage, distribution, and reporting of HIV/AIDS treatment therapies will be critical.

The recently piloted HIV and AIDS supply chain decentralization model can be adapted to support the essential transition to a district-based program.

Strengthening TB Specimen Transportation
Ensuring the routine transport of TB sputum specimens to laboratory facilities to support diagnosis of TB and MDR-TB has been a persistent challenge for the NTP.

An innovative TB specimen transport pilot using private sector commercial courier agencies has been implemented since February 2015. The project collaborated with NTP and other partners to adapt this model and plan for a systematic, national launch. The National government and the provinces are now moving forward to pay for and implement the piloted specimen transport system across the country.

Although the diversity in health care contracting and financing schemes across the country will present difficulties, the lessons and experience gained from the pilot activity can inform adaptation and facilitate implementation of effective TB specimen transport methods throughout the country.

Promoting Sustainability through Capacity Development
Strengthening MOH capacity to manage supply chains has been a challenge, and there is no SCM capacity building program within the MOH.

An SCM human resource needs assessment has been completed. This assessment identified competencies most required and the areas in which SCM capacity building is needed. An SCM human resources capacity-building roadmap has been formulated to guide MOH efforts to strengthen staff SCM competencies over the next several years.
## Acronyms

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Description</th>
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<tbody>
<tr>
<td>AI</td>
<td>avian influenza</td>
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<tr>
<td>AIDS</td>
<td>acquired immune deficiency syndrome</td>
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<td>ARV</td>
<td>antiretroviral</td>
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<tr>
<td>HIV</td>
<td>human immunodeficiency virus</td>
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<td>MDR-TB</td>
<td>multidrug-resistant TB</td>
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<td>MOH</td>
<td>Ministry of Health</td>
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<td>NTP</td>
<td>National Tuberculosis Program</td>
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<td>PtD</td>
<td>People that Deliver</td>
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<td>SCM</td>
<td>supply chain management</td>
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<td>TB</td>
<td>tuberculosis</td>
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<td>WHO</td>
<td>World Health Organization</td>
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