

Health Systems Strengthening and Enhanced Surveillance to Prevent or Minimize Disease Outbreaks



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The ongoing Ebola outbreak is the largest and most deadly recorded in history. Its course has been more unpredictable, infecting far more people, and reaching a much wider geographic expanse than previous outbreaks. Abt Associates' strong presence and longtime partnerships with host country governments in Nigeria, Mali, and Senegal, and Abt's work in Liberia has enabled us to monitor and survey the disease outbreak and stand ready to ensure rapid coordinated responses.

Abt is recognized as a leader in managing large, complex health programs in over 70 countries that aim to improve health care delivery and reduce the burden of infectious disease. For 25 years, Abt has implemented the United States Agency for International Development (USAID) flagship health systems strengthening (HSS) projects, and more recently, we have established ourselves as leaders in Centers for Disease Control and Prevention-funded (CDC) vaccine effectiveness study design and implementation. Through this work, we assist countries to create more effective, equitable, and efficient systems that respond to health needs and disease outbreaks.

Abt's Approach

The most recent Ebola outbreak in West Africa has highlighted the critical role that strong health systems play in preventing and responding to epidemics. Ebola has been difficult to contain in **Guinea, Liberia, and Sierra Leone**, the three most affected countries, in large part because of their weak health systems. These countries continue to face serious challenges such as critical health worker shortages, disjointed disease surveillance systems, and inadequate risk communication and behavioral change communication. To address both short- and long-term response needs, Abt has established a strategic plan with a focus on strengthening health care and information systems and implementing evaluations for Ebola interventions.

Abt has also developed internal risk mitigation guidance on basic prevention for pre- and post-staff travel to Ebola-affected countries, and identified and secured partnerships with clinical research organizations for rapid mobilization of field-based clinical research. We are working with the Ministry of Health in **Senegal** on Ebola coordination and response efforts, and led an Ebola-response panel at the 2015 World Social Marketing Conference in Sydney, Australia. Our approach was developed from experience with other infectious disease outbreaks and can be scaled to any disease epidemic, especially Ebola.



Abt's Capabilities in Preventing and Minimizing Disease Outbreaks

Health Systems Strengthening

As the prime to 16 bilateral projects, Abt maximizes its HSS expertise while leveraging innovations in technology to improve country capacities to respond effectively to complex health systems challenges. Under USAID's *Health Systems 20/20 project*, Abt provided technical assistance for comprehensive post-conflict HSS, health financing, and insurance policy in countries such as **Liberia**. This experience allows us to partner with relief organizations and leverage response-focused investments for long-term impact to rebuild the infrastructure of pre-Ebola "routine" care (e.g., malaria, immunizations, etc.).

Health Information Systems and eHealth Technologies

Abt developed a system, *GxAlert*, which uses mobile channels to support real-time reporting of results from tuberculosis (TB) diagnostic machines. *GxAlert* automatically sends a message to a national database when a new drug resistant TB case is detected, facilitating robust surveillance and rapid response in the treatment of patients. The solution is adaptable to any diagnostic device or disease, making it scalable to other health information platforms and outbreaks, such as Ebola. Abt will also build upon previous work in effective contact tracing in **Senegal** and **Nigeria** to expand health information systems (HIS) surveillance with mHealth platforms to prepare for and monitor outbreaks.

Enhanced Disease Surveillance for Preparedness and Response

Abt has the capacity to provide rapid and comprehensive technical assistance to countries through a multidisciplinary team of public health professionals with dual expertise in animal and human epidemiology. We ensure comprehensive and integrated preparedness planning by identifying areas at high risk to strengthen surveillance for infectious disease epidemics. Specifically, Abt has worked with national governments in **Ghana, Tanzania, Georgia, Vietnam, and Laos** to detect, prevent, and control influenza and emerging infectious disease outbreaks.

These efforts include community-based surveillance (CBS), scale-up of biosecurity, and strengthened networks of human and animal workers for improved case management and infection control.

Human Resources for Health

Abt has multiple years of experience in implementing innovative solutions to vexing human resource problems in the developing world. Abt is particularly strong in costing out the human resource implications of strategic plans and has developed advanced human resource assessment tools. These tools have been extensively used in post-conflict environments, such as **South Sudan**, and often are a critical part of a larger Health Systems Assessment that Abt has performed in nearly 30 countries. Another area in which Abt has considerable experience is in identifying key motivational factors for good job performance and associated incentives that can be used to improve staff execution. The burgeoning field of electronic human resource management is also an area in which Abt excels, especially in the creative use of mobile platforms to improve human resource driven outputs.

Social and Behavior Change Communication and Corresponding Health Surveys

Abt has a successful and long history designing and implementing effective culturally-sensitive social and behavior change communication (SBCC) campaigns. We employ evidence-based theories to increase knowledge and health-seeking behaviors globally to achieve measureable and sustained improvements in health. In **Zambia**, Abt developed SBCC training materials to build the capacity of peer educators and health promotion staff in sexual and reproductive health and HIV prevention strategies for improved health outcomes. Abt, through the *President's Malaria Initiative (PMI) Africa Indoor Residual Spraying (AIRS) project*, conducted community-appropriate house-to-house and mass-messaging via SMS, radio shows, and dramas on malaria prevention in 13 African countries, including **Liberia, Mali, Nigeria, and Senegal**. Abt will use similar outreach methods to mitigate Ebola and other disease impacts, de-stigmatize survivors, and increase public awareness during and after a highly infectious epidemic.



Abt, through its subsidiary SRBI, has keen skills in performing health surveys of low-incidence patient populations to help guide SBCC campaigns. Abt SRBI excels in using mobile technologies for surveys to assess social and cultural impact, as well as disease prevalence at the household and community level in low-resources countries.

Epidemiological Research and Clinical Study Coordination

Given Abt's expertise leading vaccine effectiveness (VE) and domestic and global influenza pandemic studies for the CDC over the past five years, we have the staff, international field experience, and technical skills needed to rapidly implement trials to evaluate Ebola interventions. We succeed in study protocol development, site/partner qualification and selection, institutional review board (IRB) and site management, and networking/coordination at regional and national levels with multiple donors.

Abt also has considerable experience staffing and mobilizing large numbers of permanent and temporary employees at overseas sites, particularly in **Liberia, Mali, Senegal, and Nigeria**. This includes training and hiring seasonal field staff with diverse competencies. Likewise, Abt's expertise in the economic evaluation of potential or existing vaccines and therapies allows us to evaluate related Ebola-focused interventions.

The following pages highlight Abt's technical experience and demonstrate our strong skill set in health systems strengthening and all of its components, to prevent and minimize infectious disease outbreaks.



Supporting Health Systems Strengthening

- Abt is recognized as a leader in managing large, complex health programs in over 70 countries.
- Abt's core expertise is in applying systems-strengthening interventions at each level of the health system—national, district, and community.
- Abt has 25 years of experience implementing United States Agency for International Development (USAID) flagship health systems strengthening (HSS) projects.
- Abt is currently the prime on 16 bilateral health projects with HSS components.
- Abt assists countries to create more equitable and efficient systems that respond to consumer needs and improve public health via SBCC to prevent the spread of disease and mitigate disease impacts.
- Our staff works closely with host country governments to identify resources, challenges, and goals, and to develop workable solutions that support lasting improvements in health systems.

Please find below a selective list of the health systems gaps consequential to the Ebola epidemic and Abt's experience in addressing similar gaps on previous and current projects.

Human Resources for Health

Recruitment of health workers and provision of training and resources for health staff in the management of high-risk diseases

- Abt has recruited and trained 80,000 temporary field staff, over the past three years, with diverse competencies in more than 15 countries, including **Liberia, Nigeria, Senegal, and Mali**, for the *President's Malaria Initiative (PMI) Africa Indoor Residual Spraying (AIRS) project*.
- Under the DFID-supported *Partnership for Transforming Health Systems II (PATHS2)* project in **Nigeria**, Abt has led in-service competency-based trainings and supportive supervision to midwives, nurses, and community health workers (CHWs) to improve health service quality.
- Via USAID's *Strengthening Health Outcomes through the Private Sector (SHOPS)* project, Abt recruited and trained 900 health workers (HWs) in **Nigeria** in the provision of quality family planning counseling and services, resulting in 38,047 couple-years of protection.

Strengthen data collection systems and human resource information systems to track health care workers (HCWs) and their resource needs

- In **Vietnam**, Abt developed a CBS model for USAID's *Avian and Pandemic Influenza Initiative (APII)* that engaged human and animal HWs for village-level active surveillance. The CBS networks helped identify several highly pathogenic cases of avian influenza (AI) and prevented larger outbreaks.
- Abt supported **Ghana's Avian Influenza Working Group for USAID's Quality Health Partners (QHP) project** by 1) conducting a rapid assessment of the existing epidemic surveillance and response system; 2) drafting a national AI preparedness and response plan using the WHO framework; and 3) building capacity of veterinary staff to conduct surveillance of unusual deaths in wild/ domestic bird populations.
- With Ministry of Health (MOH) support in **Côte d'Ivoire** and **Nigeria**, Abt implemented a national human resource information system (HRIS) that facilitated staffing management and projections.

Increase trust of beneficiaries and community members (decrease stigma and discrimination)

- Abt conducted community level SBCC campaigns, using radio, pamphlets, dramas, and door-to-door messaging that address varied cultures across 12 *AIRS* countries to increase the beneficiary knowledge of malaria prevention and treatment.

Service Delivery (Prevention and Promotion)

Support compliance with standards/guidelines (treatment monitoring, equipment use, etc.)

- Under the *Zambia Integrated Systems Strengthening Program (ZISSP)*, Abt partnered with the MOH to establish a system for quality improvement (QI) to address various existing gaps in the clinical QI process. As a result, the MOH has rapidly scaled up QI and clinical mentorship tools nationally, and trained 64 master trainers and another 1,028 QI staff.

Increase adherence to infection control measures across diseases

- In **Vietnam**, Abt developed a facility-based infection control and case management training program to assist the MOH in operationalizing their infection control guidelines for respiratory infections, specifically AI and influenza-like illnesses.
- In **Nigeria, Ethiopia, and Malawi**, Abt assisted the MOH via supportive supervision mobile technology to collect and analyze data and provide on-the-spot validation of health facility (HF) data. Facilities reported improvement in infection control, medication adherence, and drug stock-outs.
- On the *Avian Influenza Mekong project* in **Vietnam**, Abt conducted simulation exercises where communities practiced techniques for applying prevention and control measures when identifying, transferring, and treating an infectious patient from the community to the facility. This included proper use of voluntary quarantines and personal protective equipment (PPE).

De-stigmatize infectious disease survivors

- In **Vietnam** and **Laos**, Abt conducted community-based education and outreach activities to minimize the spread of AI and to reduce stigma related to the disease.

Increase public awareness of disease prevention strategies

- Abt has extensive experience in many countries designing campaigns to prevent disease and to increase health-seeking behaviors that are grounded in behavioral theories. We use the appropriate mix of mass media, community approaches, interpersonal communication, and social/digital media to effectively educate audiences and strengthen social support for prevention and care-seeking.

Selected examples include:

- In **Mali**, Abt improved the quality of high-impact health interventions by co-developing vaccination communication plans and disseminating 1,750 health guides to HFs and NGOs. This contributed to a 32 percent increase in the number of pregnant women completing at least three antenatal care visits, and a 96 percent increase in the number of new acceptors of family planning (FP).

- In **Ghana** and **Nigeria**, Abt developed and is implementing a set of interventions targeting caregivers to promote the use of zinc and oral rehydration salts (ORS) for the treatment of childhood diarrhea.
- Under *PHRPlus* in **Georgia**, Abt co-produced and disseminated an AI brochure to 25,000 HWs on risk factors, clinical diagnosis and treatment, patient communications advice, and prevention.

We can use this experience to increase public awareness of disease prevention strategies through the following:

- Increase awareness surrounding treatment of infected patients by family members.
- Increase awareness on proper burial practices.
- Design campaigns focusing on reducing denial in affected countries.

Governance, Leadership, and Management

Build stronger public multi-sectoral leadership and country-led donor coordination

- In **Zambia**, Abt worked closely with the MOH at the national, district, and community levels to strengthen systems for planning, management, and delivery of health services. The interventions are focused on strengthening and integrating health services in the high-impact areas of FP, maternal, newborn, and child health, HIV and AIDS, malaria, and nutrition.

Expand capacity for resource mobilization management

- Under the *Wajibika Project*, Abt strengthened the Government of **Tanzania's** health, HIV and AIDS, and orphans and vulnerable children programs by building the capacity of local government authorities in technical oversight and financial and budget management. Abt implemented fiscal and programmatic accountability interventions in 27 councils (2010–2014), leading to 85 percent of all project councils having clean external audit reports for fiscal year 2011/2012, compared to 44 percent at the beginning of the project.

Financing

Support evidence-based health purchasing and operations

Under USAID's *Health Finance and Governance (HFG) project*, Abt is developing a sustainability road map for **Ghana's** National Health Insurance Scheme (NHIS) that includes a long-term plan to (1) increase efficiency and sustainability and (2) contain costs by balancing revenue generation and expenditure management. Within this scope, Abt is expanding a revised capitation approach via the review of a pilot provider payment system at primary health clinics, and the alignment of provider payment mechanisms with the variable costs of patient care. Abt is working to improve NHIS's claims data collection and analytic processes through an evidence-based information dashboard, enhanced monitoring and evaluation (M&E) across NHIS operations, and improved internal management practices.

Increase financial resources to fund local emergency responses and pay salaries

- In **Liberia**, Abt collaborated with the World Bank to assist a local team to complete a National Health Accounts exercise, a benefit incidence analysis, a synthesis of health financing performance, and a series of consultations at local and central levels, all in less than 18 months. The effort resulted in a balanced and practical health financing policy with an essential service package offered for free and options to wean the system off external funding.

Develop policies for hazard pay, health insurance, or death benefits especially for health workers

- Under USAID's *Health Systems 20/20 project*, Abt supported the development of a comprehensive post-conflict health financing policy in **Liberia**, including the role of health insurance. Liberia's first health and social welfare financing policy was endorsed by the cabinet, and the MOH is moving forward with its implementation.
- Under *PATHS2*, Abt conducted an industry-wide actuarial assessment of claims data from four of **Nigeria's** largest health insurance providers to estimate the cost of covering infectious disease, hospitalization, and outpatient care services to lower income populations.

Public financial management and timeliness of mobilizing resources

- In **Uganda**, Abt conducted, with the MOH, a rapid assessment to prioritize human resources for health (HRH) interventions and calculate the financial investment required to implement provider incentivized packages.

Expand financial protection mechanisms for the population

- Abt has used innovative human-centered design approaches to identify and address unique population risks. For Ebola, this may include lapses in household income, which may occur as a result of quarantine, death, hospitalization, or general contraction of the economy. In **Kenya**, Abt supported the design and distribution of new health insurance products targeting lower-income members of Savings and Credit Cooperative Organizations (SACCOs) and microfinance banks.

Health Systems Assessment

Investigate an *entire* health system, including governance, health financing, health services delivery, human resources, pharmaceutical management, and health information systems

- Abt, under the *Health Systems 20/20 project*, identified opportunities for the private sector to relieve public sector constraints and to facilitate the long-term sustainability of key health programs (such as HIV responses) as countries face static or declining aid for health programs. Abt's most comprehensive assessment tool is the Health Systems Assessment (HSA). The HSA methodology was developed under the USAID-funded *Health Systems 20/20 project*, and was conducted in more than 23 countries worldwide. The HSA looks at the health system holistically, assessing the building blocks that impact the health system's function to contribute to national strategic plans, PEPFAR partnership frameworks, and other national activities.

Health Information Systems (including mHealth)

Improve surveillance and reporting systems at the community level to address a lack of human resource capacity

Abt's mobile applications for health (mHealth) offer cost-effective solutions that address resource gaps and strengthen communications among all stakeholders in **20 countries** across the globe.

- Abt, in collaboration with the National TB and Leprosy Training Centre in **Nigeria** and Avid Database Solutions, piloted personal digital assistants (PDAs) to help improve supervision of TB treatment, diagnosis, and data reporting at the facility and local government level. The use of PDAs and later, smartphones, to collect data on TB has eliminated the need for paper forms, minimized human error in data entry, reduced the lag time for getting data to policymakers and managers, and helped pinpoint ways to improve delivery of care.
- Abt worked with hospital staff and provincial health officials in **Vietnam** to design and implement a hospital-based information system for five hospitals. The system improved internal hospital management through improved data availability and reduced the burden of required reporting to the provincial MOH.

Improve systems for case management and follow-up, including electronic communication mechanisms down to the community level

- On the *4th Sector Health project*, Abt collaborated with Sustainable Sciences Institute (SSI), Ericsson, and Claro, a mobile phone network operator, on a "Laboratory for Information Communication and Technology (ICT) for Health" in **Nicaragua**. Abt co-created an innovative mHealth "laboratory" to test health-system benefits and efficiencies achieved through real-time communication between CHWs, HFs, and providers. Abt and SSI worked with the MOH to design a customized medical record and birth registry software that provides the information needed for appropriate follow-up on pre- and post-natal check-ups for pregnant women and infants.

Commodities, Pharmaceuticals, and Supply Chain

Strengthen supply chains that limit access of medical products

- Abt trained district health staff in managing **highly active antiretroviral therapy (HAART)** supply chains, focusing on 13 critical functions (e.g., finance, HRH, accountability, M&E) in **Zambia**.
- Abt developed a supply chain for USG-procured contraceptives during **Mali's** 2012 coup d'état that included logistical management tools, supervised delivery and distribution, data collection, and staff training.
- Under the *Clinical HIV and AIDS Services Strengthening project* in **Mozambique**, Abt provided technical assistance to 160 HFs in three provinces to improve commodities logistics and management systems. This reduced commodity shortages and stock-outs, and interruptions in patient monitoring.

Expand supply of critical commodities and essential medicines

- *AIRS* has procured and shipped thousands of PPE for spray teams in 12 African countries and has established relationships with international and local vendors.
- Abt developed a system, *GxAlert*, that utilizes mobile channels to support real-time reporting of results from TB diagnostic machines in **Nigeria**. *GxAlert* automatically sends a message to a national database when a new drug resistant TB case is detected, enabling better surveillance and a faster response to getting patients on treatment. The solution is adaptable to any diagnostic device for any disease, making it scalable to other health information platforms.
- In **Ghana**, Abt worked with local manufacturers, advertising agencies, government services, and NGOs to introduce a more effective zinc/ORS product for diarrhea treatment. In year one, sales reached 16.4 million tablets because Abt facilitated product registration, ensured product quality, trained prescribers, and designed communications campaigns to build demand.

Prepare pharmacists serving on front lines

- In **Ghana** and **Nigeria**, Abt trained private drug shop/pharmacy owners to be able to identify warning signs of commonly presented diseases and refer patients to HFs. Abt can apply these same techniques to help private drug shop owners to better understand the risks of Ebola via SMS campaigns.

Limited capacity of governments to plan for and allocate funding for commodities and supplies needed to respond to future outbreaks

- Through the *Health Systems Strengthening project* in **Senegal**, Abt is working with district and regional health management teams to receive direct USAID funding by building capacity in programmatic planning, financial and commodity logistics management, monitoring, and health management information systems (HMIS).





Delivering Health Information Systems and eHealth Technologies

The rapid expansion of capacity of information and communications technologies (ICTs) around the world is creating opportunities to accelerate the flow of information to those who can use it. eHealth reflects the application of ICTs to health for all purposes: data capture, transmission, analysis and dissemination of health information to improve the quality of service delivery, to improve the rational allocation of funding and resources across the system, and to strengthen governance and transparency.

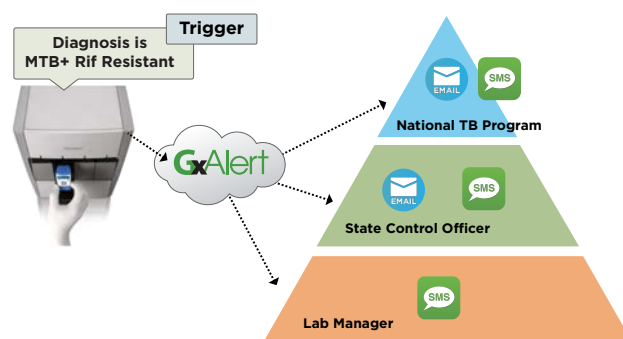
Abt Associates works with clients from the health facility to the international level to ensure that HIS and eHealth activities are being implemented with the appropriate governance and policy structures in place to promote transparency while protecting patient privacy, and in locally sustainable ways.

Below is a list of Abt's capabilities and experience in implementing HIS and eHealth technologies.

Rapid Diagnosis and Dissemination of TB Test Results in Nigeria

In many countries, TB test results are manually transcribed into lab registers. Those registers are then keyed into an existing central M&E system for analysis weeks or months later, leading to potentially harmful delays in treatment

- Abt designed *GxAlert*, a web-based database that aggregates multi-drug resistant TB (MDR-TB) test results and sends the information in real-time directly into the Federal Ministry of Health's (FMOH) national TB M&E system and to state TB control officers and lab managers.
- Abt incorporated a 3G USB modem into the GeneXpert™, a rapid TB diagnostic tool, to automatically send the results to *GxAlert*.
- *GxAlert* enables the FMOH to begin MDR treatments for patients faster and, based on test result patterns, move second line TB treatment drugs to remote facilities where they are needed the most.



National eHealth System to Strengthen Health Reform Efforts in Georgia

Georgia has traced a number of its health system challenges to information weaknesses, including a lack of reliable data and inadequate use of data in the planning, management, and use of health services

- To address these gaps and increase the government's capacity to guide and monitor health reform, Abt developed a unified electronic HMIS that connects the government, health providers and facilities, the pharmaceutical industry, and the Georgian population.
- The HMIS collects data from 200 primary health care facilities (PHC), 300 hospitals, 1,300 rural doctors, and 12 insurance companies.

- The HMIS enables stakeholders to make informed decisions and increases efficiency by streamlining business processes and improving the administration, execution, and monitoring of health expenditures. For example, the system has enabled the government to reduce costs by identifying 5,000 double-insured beneficiaries. Public access is a particularly unique feature of the system. For example, patients can use the HMIS to find health providers and pharmacies according to criteria such as location, price, and availability.

Development of a Unified National Health Information System in Kenya

In Kenya, Abt has worked under *Health Systems 20/20* and now under *AfyaInfo* to support the Government of Kenya's efforts to move toward a single unified and integrated National Health Information System (NHIS), which will replace the many, disease-specific vertical monitoring and reporting systems. Abt's role is to build the information system infrastructure and to support the MOH to develop the human and management capacity to support the NHIS to become the sole source of data for all the health sector stakeholders

- At the center of these efforts has been Abt's technical assistance to the MOH to design and customize the District Health Information System v.2 (DHIS2) software, a decision support system for the district level to provide complete, accurate, and timely health service data to users according to the MOH's defined information needs.
- Abt is providing comprehensive training in information use to health managers at all levels.
- Abt is also developing the leadership and management capacity of the MOH needed to assume a leadership role in developing, managing, and sustaining current and future information system components over time.

Using Smartphones to Improve TB Supportive Supervision in Nigeria

In Nigeria, the use of paper-based checklists during supportive supervision visits contributed to human error in data entry and a delay in the availability of data to health facility managers and policymakers for use in quality improvement interventions

- In 2010, Abt introduced Personal Digital Assistants (PDAs) in 16 facilities across four states in Nigeria to improve the TB system by harmonizing multiple checklists into one. Data from the PDAs was also synchronized with a central database to track facility results over time.
- The use of PDAs improved data quality with built-in validation, skip patterns and calculations, and the rapid results feature allowed supervisors to quickly identify performance issues and develop quality improvement action plans while at the facility.
- Preliminary results show a 66 percent increase of TB-HIV patients on co-trimoxazole preventive therapy and a 64 percent increase of TB-HIV patients on antiretroviral drugs in the Nigerian state Abia.
- Positive initial results led the government to endorse scale-up of the activity using smartphones with Abt's support to over 600 facilities across seven states by October 2013.

Providing Enhanced Surveillance for Disease Preparedness and Response

Abt Associates has the capacity to provide rapid and comprehensive technical assistance to countries through our multidisciplinary team of public health professionals with dual expertise in animal and human epidemiology. We ensure comprehensive and integrated national preparedness planning, surveillance in humans and in animals, identify areas at high risk, and develop work plans to strengthen surveillance for human and animal disease. Abt also has leading agricultural and health economists and other staff with the skills and experience necessary to conduct a range of economic, policy, and communication work directly relevant to avian influenza preparedness and response.

Please find below a selective list of our projects highlighting our capability and experience working in disease preparedness and response, and enhanced surveillance.

Avian and Pandemic Influenza Initiative

USAID/Vietnam's Avian and Pandemic Influenza Initiative was a four-year project awarded to Abt Associates and its partners to build the capacity of the Government of Vietnam and its counterparts to identify, prevent, and control influenza and emerging infectious disease outbreaks in both animals and humans. The project focused on four components—Animal Health (AH), Human Health (HH), Social and Behavior Change Communication (SBCC), and Advocacy and Coordination

- Abt developed a **CBS** model that engages both human health workers and animal health workers as village level collaborators. The model also fills an important gap in the national surveillance system by providing up-to-date grassroots level information through active surveillance.
- Abt also developed **training packages**: 1) for animal health workers in disease diagnostics and prevention and data recording and 2) for agriculture extension workers on biosecurity for small-scale commercial poultry farmers.
- Abt instituted a facility-based **infection control and case management** of respiratory infections, specifically AI and influenza-like illnesses, training program to assist the MOH in operationalizing their infection control guidelines.
- Abt assisted provincial governments in designing and revising their provincial **pandemic preparedness plan** using a One Health and “whole society” approach (e.g., planning for non-health issues like maintaining essential services).

Capacity Building to Prevent and Control Avian Influenza in the Greater Mekong Subregion Initiative (AI Mekong Initiative)

USAID/RDMA (Asia regional) three-year multi-country initiative

- Abt developed five key evidence-based methodologies:
 1. Enhancing biosecurity to minimize the risk of AI infection entering the environment and transmitting among poultry.
 2. Establishing CBS to connect the national surveillance network to households in the rural areas where there is the greatest risk of an outbreak.
 3. Strengthening networks of animal health workers to increase commune-level capacity to prevent and respond to outbreaks of AI and other poultry diseases.
 4. Improving human response through case management and infection control to improve the preparedness of the local health facilities to quickly recognize, manage, contain, and treat suspected cases of AI or other Severe Acute Respiratory Infections.
 5. Applying SBCC to increase awareness, modify perceptions, and encourage healthy practices that protect the Vietnamese people and their livestock from diseases.
- In **Vietnam**, Abt applied an integrated approach that targeted stakeholders at various levels of the human and animal health systems (from village to commune, district, province, and national level) to build local capacity to prevent and control AI.
- In **Lao PDR**, the *AI Mekong Initiative* also focused on implementation, piloting innovative approaches to build capacity to prevent and control AI through two community-based approaches:
 1. Community Events-Based Surveillance model, which aims to rapidly detect and respond to unusual health events in humans and animals that may signal AI or other priority infectious diseases such as measles and neonatal tetanus.
 2. The development of model poultry markets to ensure safe practices at the market level of the poultry supply chain.

Ghana Quality Health Partners (QHP)

USAID's *QHP project* supported the Ghana Health Service and private institutions to improve child survival, family planning, reproductive health, safe motherhood, and clinical sexually transmitted infection and HIV service delivery through the development and implementation of innovative strategies, technical assistance, and training for quality

- Abt supported the multi-sectoral Avian Influenza Working Group, headed by the National Surveillance Unit of the Ghana Health Services/MOH, by providing technical assistance to:
 1. Conduct a rapid assessment identifying strengths and gaps in the existing epidemic surveillance and response systems/structures within the agricultural and health sectors.
 2. Draft the national AI preparedness and response plan, using the WHO template as the framework—which required expanding the template to include necessary actions within the agricultural sector and coordinating these actions with those in the health sector.
 3. Build capacity of district and regional Veterinary Services Department staff to conduct active and ongoing surveillance of unusual deaths in wild and domestic bird populations.

Partners for Health Reform^{plus} (PHR^{plus})

USAID's flagship health policy and governance project between 2000 and 2005 provided technical assistance in, and helped to maintain, USAID's worldwide leadership role in health care reform, health policy, management, health financing, and systems strengthening

- Abt epidemiologists provided technical assistance in developing responses to the threat of avian and pandemic influenzas to national governments:
 1. **Tanzania**—Abt supported the development of a protocol for active AI surveillance at the district level and coordinated a meeting of the Avian and Human Influenza National Multi-sectoral Task Force for both the MOH and the Ministry of Livestock Development.



2. **Georgia**—Abt assisted in the preparation of an AI brochure to be disseminated to 25,000 health workers throughout the country on risk factors, clinical diagnosis and treatment, patient communications advice, and prevention.

Primary Health Care Strengthening in Azerbaijan

USAID-supported project that consisted of four components: 1) creating a policy and legal framework that defines PHC and the primary health delivery system, 2) increasing public expenditures for the improved health allocation for PHC, 3) improving quality of PHC services, and 4) promoting the idea of personal responsibility for one's health among individuals and families

- Abt provided technical assistance in **Azerbaijan** to strengthen the ability of the existing infectious disease reporting system to detect and report suspected human cases of AI.

- Activities:
 1. Developed and adopted a standard case definition for use in detecting and reporting cases of “influenza-like illness.”
 2. Developed diagnostic and reporting forms and protocols.
 3. Trained district clinical and surveillance staff in the use of the procedures and protocols.
 4. Developed and implemented support, supervision, and monitoring and evaluation procedures.



Building Human Resources for Health

Abt has extensive experience in costing and analyzing the impact of national and disease-specific HRH strategic plans, policies, pre-service education, retention strategies, and interventions. The Abt team specializes in assessing, designing, and evaluating financial and non-financial incentive schemes, and performance-based financing initiatives.

Please find below a selective list of our human resources for health capabilities and experience by technical area and country.

Costing

Nigeria

Under the *Health Systems 20/20* project, Abt developed a customizable costing model in MS-Excel to look at the direct cost implications of the Nigerian TB control program from 2008 to 2012. With a baseline scenario for an increase in the TB directly observed treatment, short-course (DOTS) caseload, this model projected **Nigeria's** total direct costs of the DOTS, multi-drug resistant TB (MDR-TB), and TB-HIV program to be US\$17 million in 2012. Additional scenarios were costed, which varied the rate of DOTS case registrations and treatment outcomes.

Financial and Non-Financial Incentives

Global

Abt developed a *Pay for Performance (P4P) Blueprint Guide* under *Health Systems 20/20*. The *P4P Blueprint Guide*, intended for country health program managers, including government, non-government, and donor agencies, provides global technical leadership on pay for performance. The guide offers a systematic framework for P4P programming, including policies to realign incentives for health workers to encourage improved performance.



Economic and Financial Analysis

Global

Under *Capacity Plus*, Abt analyzed the magnitude of the HCW transition from PEPFAR to country support. This analysis used data from 29 countries and two regions (the Caribbean and Central Asia) to examine patterns among countries with PEPFAR-supported HCWs to identify countries that may be hardest hit by the transition away from PEPFAR support and broaden our understanding of a country's capacity to take on PEPFAR-supported HCWs with domestic resources. The results were presented to USAID to inform approaches to take when transitioning from donor support.

Abt provides technical assistance at the national and hospital levels to increase capacity for Human Resource Management (HRM). Recognizing that effective HRM is the result of both national-level policies and individual supervisors, Abt works with host governments to develop and cost HRH strategic plans and standards, such as hospital HR standards and delineating job descriptions for the entire workforce. Abt has particular expertise in workforce motivation and productivity. Abt has assessed existing initiatives and current productivity, and designed retention schemes, and performance management and monitoring strategies.

Please find below a selective list of our HRM capabilities and experience by technical area and country.

Motivation, Productivity, and Retention Uganda and Malawi

Through the *Health Systems 20/20 project*, Abt conducted a study to determine the levels of intrinsic motivation, retention, and performance factors for health workers in public, faith-based, and private for-profit facilities in **Malawi** and **Uganda**. Particularly in the public sector, intrinsic motivation is a primary driver of retention, not compensation. The biggest drivers of intrinsic motivation are professional development, opportunities for promotion, and fairness of compensation. Religiosity is an important driver of motivation at the individual and workplace level in the public as well as the faith-based sector.



Task Shifting Ethiopia

Under *Health Systems 20/20*, Abt assessed the costs and effects of anti-retroviral therapy task shifting from physicians to other health professionals in **Ethiopia**, developed a classification scheme to characterize degrees of task shifting, and compared models of task shifting with the following outcome measures: two-year probability of actively being on treatment (outcome); cost per patient per year; and estimated the incremental cost-effectiveness of increasing the degree of task shifting. Abt compared outcomes and costs at hospitals versus health centers, and found that task shifting is already the norm in Ethiopia. There is little difference between minimal/moderate task shifting and maximal task shifting, which suggests that more study of maximal task shifting is merited. Targeting mentoring/training may improve cost at health centers.

Abt has conducted HRH assessments worldwide. The Abt team assists governments in assessing both their public and private sector health workforces to improve the distribution and efficiency of the provider mix, and in planning and budgeting for the workforce. The HRH team can also assess the capacity of the workforce, and identify skills gaps at the facility or community level. The team's assessment capabilities extend to policy and entire health systems.

Please find below a selective list of our health systems assessment capabilities and experience by technical area and country.

Health Systems Assessment

Angola, Benin, Côte d'Ivoire, South Sudan, Senegal, Mozambique, Nigeria, Vietnam, Kenya, Guyana, Vietnam, Zimbabwe, Lesotho, Tanzania, Antigua and Barbuda, St Vincent and Grenadines, Ukraine, Uganda, St Lucia, St Kitts and Nevis, Grenada, Dominica, Ethiopia

Abt's most comprehensive assessment tool is the Health Systems Assessment (HSA). The HSA methodology was developed under the USAID-funded *Health Systems 20/20 project*, and was conducted in more than 23 countries worldwide. The HSA looks at the health system holistically, assessing the building blocks that impact the health system's function to contribute to national strategic plans, PEPFAR partnership frameworks, and other national activities. The HSA evaluates the current HRH situation in a country through an assessment of the HRH management systems, policy and planning of HRH, financing for HRH, educating and training HRH, partnerships in HRH, and leadership of the HRH system.

Disease-Specific HRH Assessments

Nigeria, Côte d'Ivoire, Kenya, Haiti, Guyana, Sierra Leone, South Sudan, Vietnam, Benin, Swaziland, Zambia, Ethiopia, Lesotho, DRC

The HIV and AIDS Program Sustainability Analysis Tool (HAPSAT) is used to estimate financial and human resource requirements for HIV programs. It is designed to be adapted to country contexts and user-specified policy scenarios. HAPSAT 2.0 was developed by the *Health Systems 20/20 project* to let countries create, cost, and compare evidence-based HIV program options, and then choose the option that best meets its population's need for HIV services using the financial and human resources available to provide those services. The HAPSAT software contains an HRH module which is used to assess the current HRH capacity within a country and determine the human resource gaps required for sustainability of HIV programs.

Workforce Planning and Policy

Egypt, Zambia, Namibia

As part of the workforce planning process, using tools such as the Workforce Indicators of Staffing Need (WISN), Abt assesses the capacity of the current workforce in relation to activity standards set during the WISN process. This workforce assessment looks at the skills required to successfully complete the activity and the amount of time required, and develops skill mix and workforce density standards based upon findings. These standards guide the assessment to identify the country's gaps in health workforce capacity, motivation, and skills mix. In **Zambia**, Abt assessed the workforce needs and capacity of health facilities by observing patient care providers' time, patient loads, and available supplies. The results were used to inform an intervention to increase the productivity of the existing workforce.

Post-Conflict

Côte d'Ivoire, South Sudan

Abt conducted post-conflict assessments of HRH in **Côte d'Ivoire** and **South Sudan** to guide the rebuilding of the health sector. A modified form of the Health Systems Assessment HRH module was used to evaluate the current capacity of the country to inform the development of a plan for rebuilding the country's HRH.

The Abt team also specializes in assisting governments and other HR programs in the selection and application of technology appropriate to their specific needs. The team provides technical assistance in developing the business requirements of human resources information systems (HRIS) and other innovative technologies, identifying the financing requirements and developing rational use plans. The technology team specializes in the integration and interoperability of data systems, an essential function for governments managing multiple systems. The team develops standards-based approaches to data collection and management, and provides training on the consumption, use, and analysis of data.

Please find below a selective list of our human resources information systems capabilities and experience by technical area and country.

Mobile Technology

Nigeria, Ethiopia, Malawi, South Sudan

Under USAID's *Health Systems 20/20 project*, Abt introduced the use of smartphones to improve supportive supervision of health workers in TB clinics in **Nigeria**. This has eliminated the need for printed forms, minimized human error in data entry, reduced the lag time for getting lifesaving data to managers, and helped pinpoint ways to improve clinical care. Activities that started as pilots in a few states are now being scaled up to cover more states and eventually will extend across the entire country. Since introducing mobile technology, and based in its success, Abt has carried out similar work in **Ethiopia, Malawi, and South Sudan**.



HRIS and Databases

Côte d'Ivoire, Zambia

To improve the capacity of the MOH to plan and allocate HRH In **Côte d'Ivoire**, *Health Systems 20/20* assisted the MOH to implement an HRIS, including selection and application of information technology equipment and software, and training of staff. Abt worked with the MOH to customize and implement the HRIS at the Department of Human Resources, and then to roll out the national HRIS to 35 of the 110 health districts in the country. An enhanced record management system led to the scanning of 70 percent of personnel files in these districts which are now accessible electronically. Under the *ZISSP project* in **Zambia**, Abt provided assistance to the Ministry of Health to customize their HRIS system.

Designing and Implementing Social and Behavior Change Communication Strategies and Health Surveys

As the most recent Ebola outbreak in West Africa has demonstrated, achieving behavior change can mean the difference between life and death, but motivating change requires special expertise. SBCC is a complicated multi-faceted, interactive process that draws on research, theory, and practical experience to provide actionable health information to key audiences. Successful SBCC efforts should motivate people to reduce their health risks, seek appropriate health products and services, and act as advocates to others while changing social norms in the community at-large.

For more than 20 years, Abt has implemented successful, compelling SBCC strategies worldwide, achieving measurable, sustained improvements in health. From building demand in Ghana for zinc and ORS, to preventing diarrhea in children, to boosting family planning rates in Jordan, Abt draws on its social marketing and communications expertise, and experience in building and maintaining public-private partnerships, taking advantage of the contributions each sector can make to achieve lasting public health impact.

SBCC Services

- Advocacy
- Capacity Building and Provider Training
- Community Mobilization
- Formative and Evaluative Research
- Interpersonal Communication
- Mobile Phone-based Strategies
- Program Monitoring and Evaluation
- Public-Private Partnerships
- Social, Digital, and Traditional Media
- Social Marketing
- Technical Assistance

Please find below a selective list of our projects highlighting Abt's capability and experience in social and behavior change communication.

Text messaging campaign to reinforce the use of zinc and ORS for the treatment of childhood diarrhea in Ghana

One in five children under age five suffers from diarrhea in **Ghana**. To remedy this problem, the *Strengthening Health Outcomes through the Private Sector (SHOPS)* project worked with Ghana's Pharmacy Council to train over-the-counter medicine sellers (OTCMS) in the treatment of diarrhea with zinc and ORS. To reinforce key messages from the training, SHOPS implemented a text message campaign with a select number of OTCMS. An evaluation found that SMS participants were statistically significantly (by at least 6 percent) more likely to report prescribing ORS and zinc. Results revealed a know-do gap in reported versus actual treatment practices of OTCMS. A qualitative study was conducted to explore reasons for this gap, finding insufficient depth of knowledge and a power dynamic favoring customer requests as key contributors.

Mobile mass-messaging pilot to prevent malaria in Mali

In **Mali**, residents have traditionally been alerted about impending indoor residual spraying campaigns primarily through door-to-door visits by community mobilizers who inform them when spray operators will be coming and what they need to do to prepare. The *President's Malaria Initiative (PMI) Africa Indoor Residual Spraying (AIRS) Mali project*, piloted a mobile mass-messaging service in three villages of the Koulikoro District (selecting four comparison villages) to prepare homes for the spray campaign without reliance on community mobilizers. Pilot households received text and voice messages before, during, and after the campaign. The campaign found that mobile messages were effective in increasing the number of households reached, but community mobilizers were a better channel for preparing households. Working with both channels results in a wider reach of households and better prepared households.

Develop and implement strategies to address longstanding barriers to family planning in Jordan

Through the *Jordan Communication, Advocacy and Policy (J-CAP)* activity, Abt has applied a mix of SBCC, enabling environment, capacity building, demand generation, and innovative research tactics to develop and implement innovative strategies to address longstanding barriers to family planning in **Jordan**. All J-CAP interventions emphasize the integration of female empowerment and male engagement, youth involvement, and reaching Syrian refugees living outside the camps. J-CAP works closely with the MOH, Higher Population Council, and local partners from national institutions and civil society, while simultaneously engaging communities through multi-channel campaigns to amplify their voices.

Designing and conducting health surveys

Abt SRBI, Abt's survey research subsidiary, has designed and implemented survey data collection protocols in more than 30 countries in Africa, Asia, Europe, and the Middle East. We have conducted disease-specific surveys of hard-to-reach populations, health surveys of low-incidence patient populations through large-scale probability sampling, surveys on sensitive topics requiring high standards for sampling and quality control, large-scale face-to-face general population surveys, and stakeholder surveys to assess organizational performance and policy initiatives. Our senior project managers are experts in surveying hard-to-reach populations, such as respondents with rare health conditions or particular ethnic and religious groups. Our team has experience implementing surveys on sensitive topics including stigmatized health conditions, religious beliefs, politics, and government.

Survey Services

- Project Plans to Manage the Full Research Cycle
- Survey Development and Protocols
- Sampling Plans
- Pilot Testing
- Translation Management and Review
- Interviewer Recruitment and Training
- Enumerating Households and Selection of Respondents
- Quality Control Procedures
- Fieldwork Monitoring
- Data Entry
- Weighting
- Production of Data Deliverables
- Methodology Reporting

Please find below a selective list of Abt's recent capabilities and experience designing and implementing survey data collection.

Women's voices on non-communicable diseases

A survey of 10,000 women from around the world on the impact of non-communicable diseases.

- This project was commissioned by Arogya World, a global health non-profit, and is designated as a Clinton Global Initiative Commitment to Action. The survey focuses on non-communicable diseases (NCDs) from the perspective of 1,000 women in each of the 10 selected countries.
- Women in **Mexico, Russia, the UK, and the US** completed online surveys. Women in **Brazil, India, Indonesia, Kenya, and South Africa** were sampled from mobile phone service providers and respondents completed the surveys on their mobile devices. Women in **Afghanistan** were sampled by area probability sampling and interviewed face to face.

Symptoms, impact, treatment, and management of chronic obstructive pulmonary disease

International survey of patients and physicians.

- Cross-national surveys of 12 countries on the symptoms, impact, treatment, and management of chronic obstructive pulmonary disease. More than 200,000 households were screened to establish disease prevalence and burden of disease. Respondents were interviewed in their local language.
- A total of 1,000 patients in the **US** were interviewed and 300 patients each in **Brazil, France, Germany, Italy, Japan, Mexico, Netherlands, Russia, South Korea, Spain, and the UK**.
- Companion surveys of 200 physicians and specialists in the **US** and 100 physicians and specialists in all other countries were administered.

International survey of Muslims

- On behalf of Arizona State University as part of its Department of Defense Minerva Initiative award, Abt SRBI conducted cross-sectional surveys of Muslims in **France, Germany, Malaysia, Niger, Nigeria, Senegal, and the UK**. In Asia and Africa, surveys were administered face to face. Households were selected by multi-stage cluster sampling; the sampling frame was stratified and allocated to cover 90 percent or more of the Muslim population. In Western Europe, surveys were administered by telephone.
- Interviews were conducted in local languages including Arabic, Bahasa Indonesia, Bengali, Djema, English, French, German, Hausa, Igbo, Malay, Mandarin, Turkish, Urdu, Wolof, and Yoruba.



Conducting Epidemiological Research and Clinical Study Coordination

For the Centers for Disease Control and Prevention (CDC) and the National Institutes of Health (NIH), Abt has experience in developing multi-site research network platforms to answer relevant research questions regarding preventive and treatment interventions, as well as incidence and clinical epidemiology studies related to influenza and HIV.

Please find below a selective list of our epidemiological research and clinical study coordination capabilities and experience.

Epidemiological Research and Clinical Study Coordination

Study design and protocol development expertise

- Specification of primary and secondary research questions/objectives
- Clear linkage of data and specimen collection activities (prospective interviews, medical record abstraction, electronic data extraction, laboratory assays) and the data analysis strategy
- Randomized and non-randomized designs and implementation
- Assessment of virus exposure opportunity if applicable
- Study population definition (inclusion/exclusion criteria, validity, and generalizability)
- Statistical stability of effect estimates (power, sample size)
- Accurate and precise specifications of exposures/interventions and outcomes
- Consideration and measurement of potential confounders and effect modifiers
- Development of data collection instruments (e.g., interviews, abstraction forms, lab results)
- Data management
- Guaranteed proper consent and subsequent storage specimens/data for future questions

Operational implementation

- Translation of study design to on-the-ground procedures and implementation in a standardized manner across multiple sites
- Design and oversight of resources, operations, and procedures necessary to conduct research across more than one site
- Reliability and validity of study procedures through rigorous training and subsequent monitoring of study operations
- Standardized procedures for ongoing data, procedural, and intervention quality assurance at multiple levels (e.g., study-wide, at each site, by individual staff) including:
 - Establishment of standards for clear, timely, and collaborative communications, consensus-building, and information sharing in order to build a team within and across sites
 - Qualification of laboratory sites when centralized lab capability is appropriate
 - Establishment of contacts to provide centralized support to enhance study activity efficiency for data management, statistical analysis, and specimen handling and analysis

Site/partner qualification and selection

- Identification of candidate sites with solid scientific leadership
- Training of sites and staff on implementation of common protocol
- Subcontracting with sites with measurable deliverables and milestones such that funding is closely tied to performance in protocol implementation
- Fiscal and subcontract management across participating sites and partners

Proficient in coordinating across multiple IRBs and managing CDC's Office of Management and Budget (OMB) clearance

- Abt's own IRB ensures that study-wide procedures for informed consent and data confidentiality and security are consistent with institutional, human subject protection, and other governmental requirements
- Demonstrated proficiency in completing the OMB process where applicable, including preparation, submission, and follow-up of OMB package

Ability to rapidly deploy in sub-Saharan Africa

- Large list of personnel that can be immediately deployed and who have lived in sub-Saharan Africa while leading and implementing United States Government health contracts
- Robust security and safety procedures with associated and field-tested standard operating procedures developed and in use in Northern Nigeria and Southern Sudan
- Financial monitoring systems (with associated use of local banks for payroll, local purchases, etc.) and experience setting up local offices in sub-Saharan Africa
- Field tested procurement policies that are United States Government compliant with modifications to improve efficiency
- Experience in rapidly setting up satellite offices in sub-Saharan Africa with tested communication and supervision procedures





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IMPACT**

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abtassociates.com/Practice-Areas/International-Health/Infectious-Diseases/Ebola.aspx