



Capacity Statement

Prevention and Control of Infectious Diseases (malaria, tuberculosis and neglected tropical diseases)¹

Global Overview

Globally, infectious diseases kill more than 11 million people every year. Malaria alone affects between 350 and 500 million and results in the deaths of at least two million people annually.² Ninety percent of malaria mortalities are in children under the age of five, killing more children globally than any other disease.³ Tuberculosis (TB) kills an additional one million per year and one billion people suffer from neglected tropical diseases (NTDs).⁴ In comparison, HIV/AIDS kills less than 300,000 children under the age of five every year.⁵

The impact of infectious diseases significantly stymies economic growth and has overwhelmed weak primary health care systems throughout the developing world. In sub-Saharan Africa (SSA), malaria accounts for approximately 40 percent of public health expenditures and causes an annual loss of approximately 1.3 percent of Africa's gross domestic product. The prolonged and debilitating effects of NTDs perpetuate poverty and render those affected as a double burden on households and societies as they cannot work at their full capacity and require chronic care.⁶

In recent years, international funding for malaria control has risen significantly from just US\$51 million in 2003 to US\$1.1 billion in 2008.⁷ As a result, countries have been able to adopt more effective strategies, notably reducing bottlenecks in the production, procurement, and distribution of insecticide-treated bed nets; educating communities on their proper utilization; increasing the procurement of new combination treatments containing artemisinin; and expanding the use of diagnostics to better target treatments.⁸ Accordingly, the use of long-lasting insecticidal nets (LLINs) among children across SSA increased from 2% in 2000 to 20% in 2006.⁹ However, according to the Roll Back Malaria Partnership, more than 350 million LLINs are still required over the next two years. While global efforts to distribute anti-malarial nets have been improving in

¹ Prepared by Ryan Lander and Sabrina Kwauk in September, 2009

² Harvard Malaria Initiative. Available online at <http://www.hsph.harvard.edu/research/hmi/about-hmi/malaria-information/index.html> (accessed on 21 August 2009)

³ President's Malaria Initiative.

⁴ World Health Organization. 2009 http://www.who.int/neglected_diseases/en/#

⁵ UNAIDS. 2008, Report on the global AIDS epidemic.

⁶ World Health Organization http://www.who.int/dg/speeches/2007/190407_ntds/en/index.html

⁷ Roll Back Malaria. 2008. The Global Malaria Action Plan.

⁸ United Nations. 2009. The Millennium Development Goals Report.

⁹ United Nations. 2009. The Millennium Development Goals Report.

recent years, most countries have shown little or no progress in expanding coverage of anti-malarial drug therapies, many still using less effective medicines.¹⁰ As a result, malaria continues to put pregnant women at 4 times the risk and be the leading cause of mortality and absenteeism for children in Africa.

Another important cause of death from an infectious agent is TB, which affects mostly young adults in their most productive years. The absolute number of new TB infections has risen from 8.3 million in 2000 to 9.3 million in 2007.¹¹ Largely attributable to the slow progress in fighting the disease relative to population growth – each person with active TB infects on average 10-15 people every year; yet globally, nearly 4 out of 10 cases are not being properly detected and treated.¹² While more than half of all TB cases occur in Asia, due to higher HIV prevalence rates, the majority of global HIV-positive TB cases occur in Africa (79% in 2007).¹³ In addition, TB continues to be a leading cause of death of people with HIV/AIDS. One study in Africa finds that up to half of all children with HIV were co-infected with TB.¹⁴

In addition to the burden faced by malaria and TB, there are 14 Neglected Tropical Diseases (NTD's). Primarily concentrated in women and children living in the poorest and most marginalized communities with unsafe water, poor sanitation and limited access to basic healthcare are most at risk of contracting NTDs. Afflicted with NTDs can lead to lifelong consequences including mental retardation, irreversible disability, and gross disfigurement. Although most NTDs can be safely and inexpensively prevented and eliminated, those affected are poor and have little political voice. NTDs, as a result, are often less visible and has frequently led their being considered a lower public health priority.

Plan's Global Response

Plan's programs on prevention and control of infectious diseases draw from its strengths in community mobilization and long developed relationships with Ministries of Health (MoHs). By mobilizing communities and leveraging partnerships, Plan works to ensure that it improves community health system as a whole, and ultimately, the relationship between the communities and the MoH.

Plan efforts are focused on addressing the need to strengthen integrated, community-based management of malaria, TB and other NTDs. Plan has engaged in the following programs to help mitigate risks:

- Conducting behavior change education campaigns to encourage lower-risk practices in contracting infectious diseases and building community ownership over their health outcomes;
- Strengthening primary health care systems including providing diagnostic equipment to first-line facilities and training cadres of professional and community health workers in infectious disease prevention, identification and treatment;

¹⁰ United Nations. 2009. The Millennium Development Goals Report.

¹¹ United Nations. 2009. The Millennium Development Goals Report.

¹² WHO. 2008. "Tuberculosis Facts." Available online at http://www.stoptb.org/resource_center/assets/factsheets/factsheet_april08.pdf (accessed on 21 August 2009)

¹³ United Nations. 2009. The Millennium Development Goals Report.

¹⁴ UNAIDS. 2008, Report on the global AIDS epidemic.

- Procuring and distributing prevention and treatment methods including LLINs, intermittent preventive treatment during pregnancy (IPT), deworming prophylaxis, and anti-tuberculosis medications;
- Implementing vector eradication campaigns; and
- Screening and treatment of common vectors.

Plan's Experience with Malaria Control Programs

Plan works in 43 of the world's 85 malaria endemic countries across Africa and Asia. In Africa, Plan leverages birth registration campaigns, antenatal care visits, and childhood immunization programs as an opportunity to provide pregnant women and parents of newborns with free LLINs, a critical integration of services that supports Plan's efforts to reach the most vulnerable groups with prevention services. Plan also advocates for governments to adopt similar strategies integrating malaria prevention into other health service delivery to facilitate the distribution of free LLINs nationally to all vulnerable populations.

Plan coordinates community malaria awareness, prevention, vector control, and LLIN utilization campaigns. In addition, Plan works with MoHs in the region, helping to inform national malaria policies and support governments' decisions to switch to the distribution of artemisinin combination therapy (ACTs) and the home-based case management of malaria.

Plan's country offices maintain a strong and growing relationship with its partners at the national and district levels, and many of Plan's programs are featured prominently in the MoH national health portfolio, putting Plan in a strong position to engage in national-level advocacy. Plan focuses on advocating for: (1) no-cost distribution of LLINs for the most vulnerable groups in society; (2) appropriate use of insecticides for indoor residual spraying (IRS); (3) community access to ACTs for treatment at the household level; and (4) no-cost IPTp integration into routine and antenatal care services.

Plan is a member of both the United Kingdom and the French Malaria Consortiums. Plan also works to coordinate its anti-malarial efforts with national malaria control programs, coalitions, and the Country Coordinating Mechanisms (CCMs) of the Global Fund to Fight AIDS, TB, and Malaria (GFATM) to maximize its reach and impact.

Long Lasting Insecticide Nets (LLIN) – Plan procures LLINs and supports their distribution at no-cost (or at a highly subsidized rate) to pregnant women and children under-five. Plan also collaborates with UNICEF, the Global Fund, and other large importers to benefit from economies of scale, and aids in the distribution of LLINs through its pre-established networks and community relations, and when appropriate, from health centers to villagers. In Cameroon, Plan's Child Survival project has been able to leverage its reach into isolated regions to secure LLINs from both UNICEF and the Global Fund, to supplement its activities and ensure that the most vulnerable in its target population have access to a free net.

In addition, Plan is able to compliment mass distribution activities with community information, education, and communication (IEC) activities that encourage appropriate and effective utilization of LLINs at the household level. This includes educating communities on the need to ensure LLINs are kept away from water sources and are disposed of appropriately and safely. In many

Plan-supported communities, awareness-raising programs are broadcast on local radio stations to maximize the messages' reach. Plan also helps communities to assess effective LLIN use at the household level in order to identify coverage information gaps and future needs. This provides a natural opportunity for community and child/youth participation in reporting LLIN use. Plan has demonstrated experience adapting the Improvement Collaborative methodology and through Quality Improvement Teams (QITs) that conduct unannounced night visits has been able to ensure near universal utilization of LLINs in one pilot district in Benin (*please see the case-study below*). Plan also works to empower women's organizations and community groups to safely retreat older, non-LLINs at regular intervals in order to sustain the nets long beyond the anti-malaria programs' activities. In addition, as Plan maintains a long-term presence in the communities it supports, Plan it is able to maintain a long-term advisory role to ensure that the communities are effectively preventing malaria transmission.

Anti-Malarial Drugs - Plan encourages its partners who are engaged in the procurement or distribution of anti-malarial drugs to adhere to country- and region-specific procurement requirements and drug combinations as detailed by the WHO.¹⁵ The rapidly growing resistance of malaria to widely used, single-drug therapies has lead the WHO to recommend ACT for first-line treatment in all countries experiencing drug resistance. Plan supports the use of ACT in accordance with WHO and Roll Back Malaria policy and in agreement with national malaria control programs.¹⁶

Prompt access to effective treatment, especially in acute cases of malaria, is vital. However, access to such treatments can be a challenge in remote areas far from health centers and drug facilities. Therefore, in accordance with national health programs, Plan supports alternative village distribution mechanisms outside the health center setting to increase timely access to malaria treatment. Principally, Plan builds the capacity of communities to conduct home-based case management of malaria and supplies Artemisin Combination Therapies (ACTs) to supported communities. Additionally, Plan often works with underserved health facilities to ensure that ACTs remain available in their facilities and will advocate on their behalf to the MoH to assure drug stock-outs are prevented. Plan also provides start-up capital for revolving drug fund schemes in rural villages to purchase anti-malarial drugs (e.g., Coartem).

Rapid Diagnostic Tests -In malaria-endemic regions where access to diagnostic equipment is limited, Plan provides rapid testing malaria kits and microscopes to laboratories, which enables timely and accurate diagnosis of malaria parasites. With financial support from NORAD, Plan procured in Malawi an assortment of laboratory equipment for Kaluluma Rural Hospital. Improved laboratory services have resulted in timely disease identification and allowed for the provision of quality case management, thereby reducing case mortality rates among children under-five and pregnant women. Plan also provided the government's malaria coordinators at the Kasungu and Mzimba district health office with motorcycle, enabling them to conduct critical supervision activities at malaria screening sites in health facilities in difficult to access areas.

¹⁵ WHO regional treatment policies and drug combinations <http://www.who.int/malaria/treatmentpolicies.html>

¹⁶ Position of WHO's Roll Back Malaria Department on malaria treatment policy http://www.who.int/malaria/docs/who_apr_position.htm

Case Study: Collaborative Approach to Community-Based Malaria Prevention Project in Benin, 2007-2009

From 2007 to 2009, funded by USAID through the University Research Corporation (URC), Plan and the MoH implemented a community-based malaria prevention project in Benin. The project adapted URC's Improvement Collaborative approach in 20 villages in the Couffa department. Previously successfully applied in hospitals and large health facilities, this project represented the first effort to implement the collaborative approach at the community-level in malaria prevention globally.

Originally developed by the Institute for Healthcare Improvement in the 1990s, the collaborative approach is designed to rapidly employ practices proving most effective in individual collaborative villages across the entire project. By employing participatory methods, the methodology allows implementation to consistently adapt to improvements put forth by the key stakeholders targeted by the intervention.

Demonstration Collaborative Phase (first year): Through Quality Improvement Teams (QIT) – comprised of local community volunteers, mothers of children under-five, village leaders, traditional healers, and health workers - the project is able to effectively mobilize the villages to learn and take action against malaria. The efforts of these “village teams” include promoting knowledge of how malaria is transmitted, how it can be prevented, and the signs of malarial complication; ensuring the proper use of insecticide treated bed nets by conducting unannounced night visits to the homes of pregnant mothers; and collecting data that utilizes common indicators throughout the project. Youth also play a critical role as key informers on household behaviors in malaria prevention. Village teams attend learning sessions every quarter to collectively share experiences and best practices, leading to consistent improvement in village implementation strategies and overall program effectiveness. Each quarter the learning session is conducted in a different QIT's village to allow the other teams to witness the innovative methods they have developed and by collecting data on common indicators, the teams are able to easily assess their effectiveness relative to the others breeding a competitive and entrepreneurial spirit.

Expansion Collaborative Phase (second year): Plan built upon the programs that were consistently refined in the 20 collaborative villages and the pilot has been scaled-up to an additional 50 villages. In addition, by having previous phase QITs share the refined methods that had already been developed during the previous phase the expansion villages are able to rapidly reduce malaria prevalence and transmission in their villages.

Results:

By the end of 2008 –

- (a) The percentage of children under five with fever correctly treated with ACTs increased from 25.1 percent to 65.0 percent;
- (b) The percentage of mothers who seek appropriate care for their child increased from 19.0 percent to 59.0 percent;
- (c) The percentage of mothers correctly utilizing LLINs increased from 35 percent to 95 percent; and
- (d) The percentage of children under-five sleeping under LLINs increased from 35 percent to 98 percent.

Keys to Success:

- (e) QITs composed of village members have promoted ownership, which has facilitated decision-making and community involvement. This has in turn led to greater village autonomy that should improve project sustainability.
- (f) Learning sessions have proven effective in the disseminating of best practices as QITs learn from each other and develop feasible implementation strategies.
- (g) Local collection of data by QITs has improved village appreciation of quality.
- (h) Local health workers' involvement in QAT activities has led to greater appreciation of the capacity and potential of villages, fostering a closer working relationship with the communities.

Indoor Residual Spray and Integrated Vector Control- The WHO actively promoted IRS for malaria until the early 1980s when increased health and environmental concerns surrounding DDT caused the organization to stop promoting its use and focus on other means of prevention. Extensive research and testing has since demonstrated that well managed IRS programs using DDT pose no harm to humans or wildlife.¹⁷ In 2006, the WHO reinstated their recommendations on the

¹⁷ WHO gives indoor use of DDT a clean bill of health for controlling malaria. 15 September 2006. Available online at <http://www.who.int/mediacentre/news/releases/2006/pr50/en/> (accessed on 21 August 2009).

use of IRS to reduce malaria transmission. In line with the WHO's renewed IRS efforts and potential effectiveness, Plan supports the appropriate use of chemicals including larvicides and insecticides for indoor residual spraying in line with national malaria control programs and the *RBM Partnership Consensus Statement on Insecticide Treated Netting and Indoor Residual Spraying*.¹⁸

In addition, as part of integrated vector management, Plan assists community groups and children's groups to realize environmental activities to eradicate mosquito-breeding sites. For instance, schoolchildren and community members participate in village clean-up days during malaria epidemic seasons to reduce mosquito breeding grounds in villages and primary school environments. In Ghana, Plan mobilized communities to stock eight multipurpose dams with fingerlings of tilapia species to reduce mosquito larvae and to provide an additional source of protein for households. Consequently, the malaria mortality rate within these communities decreased, especially among children under-5.

Plan's Experience with Tuberculosis Control Programs

Plan collaborates with governments on a number of TB-related activities designed to train health workers on TB awareness, diagnosis, treatment, and prevention topics; reporting and documentation of cases; improving laboratory quality, particularly in minimizing delays in diagnosis; making available IEC materials for health providers in the form of TB-specific manuals; and facilitating the circulation of TB-related guidance documents among health workers.

Case Study: Community-Based TB Project in Senegal, 2002-2006

In Senegal, Plan implemented a community-based TB and malaria project in the local health districts of Khombole, Louga, and Niore between 2002 and 2006. In partnership with a Norwegian NGO and the government of Senegal, Plan developed lab infrastructure, trained central level staff, and enhanced its drug supply system. Despite these efforts, there was a lack of awareness about the national TB program.

Decentralization: During the period of project implementation, the MoH was in the process of decentralizing Directly Observed Therapy Short-course (DOTS) from hospitals to health centers and expanding DOTS to all health posts in Senegal. Plan Senegal was well positioned to facilitate this process with community-level activities. Connecting the MoH with rural communities, Plan Senegal provided logistical support and recruited community health promoters to collect sputum samples and identify dropout patients.

Capacity Building: Increasing the capacity of communities to respond to TB is central to achieving sustainable improvements in TB control.

- (a) MoH: Plan developed systems for health staff performance evaluations and equipment procurement; conducted a health facility assessment for all health posts and centers in the project area; and trained health staff.
- (b) Local NGOs: Plan Senegal worked with FORM'ACTION, a local NGO, to strengthen its financial and human resources management systems to allow them to secure funding, recruit, and retain qualified staff.
- (c) Community based organizations (CBOs): Project activities focused on strengthening CBO capacity to implement and finance health activities, collaborate with the MoH to ensure delivery of quality services and manage revolving drug funds.

Cost Recovery Systems/Revolving Funds¹⁹: The project provided CBOs with seed funding, training and support for inventory, logistics, bookkeeping and purchasing, enabling them to competently manage cost recovery systems, which will be used to purchase and sell drugs to community members at a subsidized price.

¹⁸ RBM Partnership Consensus Statement on Insecticide Treated Netting and Indoor Residual Spraying. March 2004. http://www.rollbackmalaria.org/partnership/wg/wg_itn/docs/RBMWINStatementVector.pdf

¹⁹ Cost recovery refers to a process of retrieving the cost associated with a service rendered or a system, such as health services. Revolving funds refers to a reserve of money (i.e. fund) that is created through pooling

Results:

- (a) Recognition of TB disease increased in the project sites
 - i. Number of people who reported hearing about TB increased from 72% to 94%
 - ii. Percentage of people who reported being in contact with a TB patient increased from 30% to 45%
- (b) Knowledge of modes of transmission increased
- (c) Stigma decreased
 - i. Efficacy of TB treatment dispelled beliefs related to “bad spirits” and lead to beliefs of curability
 - ii. Treatment prevented infectivity and thus patients did not need to be isolated
 - iii. Treatment resulted in TB patients recovering lost weight and looking healthy
 - iv. Early screening of the disease made treatment easier and minimized stigmatization

Plan’s Experience with Programs for the Control of Neglected Tropical Diseases (NTD)

Plan has a strong and long-term presence in developing countries with a high burden of NTDs. In the West Africa region, Plan’s capacity with integrated NTD control is two-fold. First, it is assisting central levels of the MoH to develop an integrated approach to NTDs. For example, in Togo, Plan provided technical and financial assistance to the MoH to collect countrywide data on NTDs; elaborate a National Strategic Plan and operational norms for an integrated approach to NTD control; and elaborate a training guide for community health workers. After completing the drafts of these documents, Plan supported the MoH in organizing two workshops to validate the documents with stakeholders including, the WHO, and leading NGOs. Plan is now working with the MoH to fund the strategies developed. In Guinea, where Plan established a technical working group composed of the MoH and NGOs involved in NTD control programs (e.g. Helen Keller International, SightSavers, WHO, OPC West Africa), and facilitated a workshop to develop the National Strategic Plan for an integrated approach to NTD control.

Case Study: Fighting Cholera Outbreaks

In November 2008, Plan launched an emergency appeal to help children and families affected by Zimbabwe’s cholera outbreak, which killed nearly 800 people and left more than 15,000 infected, authorities declaring it a national emergency. Hospitals are in urgent need of medicine, food, and equipment, and are critically short on staff. Plan is on the ground in Zimbabwe, working to help contain the spread of the disease and minimize the death toll.

In the districts of Mutare, Chipinge, and Chiredzi, Plan is providing intravenous fluids, detergents, oral re-hydration solutions, drugs, and disposable gloves for the MoH’s emergency preparedness and response teams. Plan has also provided 1,000 liters of fuel to Mutoko district’s civil protection unit to allow them to reach out to all communities that require urgent assistance. In Bulawayo, Plan is supporting workshops on disaster management and preparedness for local authorities, and cholera is one of the key disasters under discussion.

In all areas where Plan works in Zimbabwe, water, sanitation and hygiene programs continue. Plan budgeted US\$500,000 in fiscal year 2008 alone for drilling and rehabilitation of boreholes to provide safe water and reduce incidences of waterborne diseases like cholera.

Plan’s second capacity area is collaborating with governments and CBOs to develop and implement field programs providing NTD control services. Plan has worked with government offices, international and local NGOs to implement field programs integrating NTD approaches into health, education, and community interventions. For example, beginning in 2000 in sub-Saharan Africa, Plan has integrated the control of soil-transmitted helminthes and schistosomiasis into school-based programs for primary healthcare, basic education, school health, nutrition, water and hygiene.

contributions made by members of the fund. These funds are available to contributing members as loans. Here, revolving funds are employed as a strategy to recover costs for services provided by health workers.

Globally, Plan has conducted NTD control programs in in Benin, Bolivia, Burkina Faso, Cameroon, Dominican Republic, Ecuador, El Salvador, Guinea Bissau, Haiti, Kenya, Malawi, Mali, Niger, Pakistan, Philippines, Senegal, Togo and Zimbabwe. Plan's recent NTD control activities include:

- National immunization campaigns and programs: Plan provides support to governments on various national immunization campaigns including TB, diphtheria, hepatitis B, measles, yellow fever, tetanus and polio. For example, Plan helps district governments in repairing out-of-order refrigerators, replacing refrigerators beyond repair, and ensuring the cold chain is maintained, preserving the potency of vaccines. Plan also provides bicycles for EPI vaccinators to improve timely access to their assigned villages.
- National Program for the Treatment of Persons Infected with Chagas: Plan Bolivia partnered with the Department of Health Services to expand coverage of this program to all children under 15 years of age.
- Advocacy for national health strategies and MoH programs: Informational network meetings between Cambodia's national health advisers and health-related NGOs have allowed Plan and its partners to contribute to dengue hemorrhagic fever preparedness. Plan ensures that preventive measures are taken in communities to reduce the risk of infection among children.
- Provide targeted treatment: In 2005, Plan Guinea and the MoH provided schistosomiasis treatment with Praziquantel (a deworming drug) to 12,459 schoolchildren in response to the epidemic in the Gueckedou and Macenta districts. In the same year, Plan Togo and the MoH provided targeted treatment with albendazole and Praziquantel to 16,750 children in 82 primary schools in the Central and Plateau regions. In 2006, Plan Sierra Leone implemented mass deworming with Mebendazole and vitamin A to 25,000 children under-five. In Niger, Mali, and Burkina Faso, Plan is focusing on trachoma prevention, preventive chemotherapy and transmission control and mass drug administration, as part of its water, sanitation, and hygiene programs.

Case Study: Bangladesh - Successful prevention of open defecation through empowerment of schoolchildren.

Ninety-six percent of children in rural Bangladesh suffered from worm and open defecation by children and adults was one of the leading causes of the problem. In the rural district of Jaldhaka, only 18 percent of households had latrines with most of them located outside the living areas and were poorly built and maintained.

Plan response: In 2008, Plan introduced the Child-to-Child (CtC) approach of child empowerment and participation to prevent open defecation among 100,000 children and adults in rural communities of Jaldhaka districts. As a child-centered adaptation of the increasing popular Community-Led Total Sanitation (CLTS) approach, the methods of CtC (e.g., student awareness, collaboration of parents and teachers, group commitment to achieve a specific objective, peer support, and social pressure) were applied to prevent open defecation in school and community environments. For example, children decided to blow whistles when they found anybody defecating in the open. Furthermore, child and community-friendly performance indicators were agreed upon and applied. Plan also provided subsidized materials and expertise for building family latrines.

Results: (1) Open defecation has decreased by nearly 70 percent in schools and community areas; (2) latrine construction has increased through the initiative of the families; (3) whistle blowing by children was a successful deterrent to open defecation; and (4) communities were more open to hearing and involving children.

Conclusions: Based on these initial results, Plan has expanded this project to four additional rural districts and the city of Dhaka (total coverage 500,000 pop).