

Advancing Malaria Prevention and Control in Africa Through the Peace Corps-US President's Malaria Initiative Partnership

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Abstract

Background: Peace Corps is a US government volunteer service agency which provides trained Volunteers to assist host countries in addressing critical development challenges at the community level. The US President's Malaria Initiative provides technical expertise and financial resources to reduce malaria morbidity and mortality in focus countries in sub-Saharan Africa.

Objective: We aim to describe the nature of the collaboration between Peace Corps and President's Malaria Initiative (PMI) and highlight examples of the partnership in select countries.

Methods: We conducted an analysis of retrospective data obtained from Peace Corps and PMI for the years 2014–2019.

Results: Volunteers were able to learn about and work on malaria prevention and control with PMI in three key ways: a malaria-specific training program for staff and Volunteers; malaria-focused small grants; and extension of Volunteer assignments for a third year to support malaria projects. Successful Peace Corps projects supported by PMI, at the community level, were highlighted, with a focus on Rwanda, Benin, Zambia, Madagascar, and Senegal. In Fiscal Year 2019, 1408 Volunteers contributed to malaria prevention activities in 18 Peace Corps programs across Africa, of which 15 were PMI focus countries. While the majority of documented work by Volunteers has involved social and behavior change, there were many other ways to partner with PMI staff.

Conclusion: Each of the proven interventions that PMI supports for malaria prevention and control may have a role for Volunteer involvement. Combined with the technical expertise and the relationships that PMI staff have with national-level counterparts in PMI focus countries, the continued collaboration between Peace Corps and PMI can accelerate the fight against malaria.

Keywords

global health, malaria, President's Malaria Initiative, Peace Corps

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Introduction

Malaria takes an enormous toll on African communities. Of 228 million cases of malaria reported globally in 2018 by the World Health Organization (WHO), an estimated 93% occurred in Africa.¹ To reach the ambitious goal of eliminating malaria, the global malaria community must mobilize its resources strategically for high impact. This resource mobilization includes those partners who are well poised to address program challenges at the community level. Thus, collaboration with non-traditional

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partners has now become more critical, involving the faith community, the private sector, and volunteer organizations such as the Peace Corps. This article describes the Peace Corps' engagement in malaria prevention and control with support from the U.S. President's Malaria Initiative (PMI), and highlights successful projects at the community level.

Established in 1961, the Peace Corps is a US government volunteer service agency which provides trained Volunteers as requested by host countries to assist in addressing critical development challenges at the community level. Volunteers who meet certain skill qualifications are placed in over 60 countries around the world. After completing an intensive ten to twelve week in-country training program, the Volunteers learn a local language and typically live and work for two years within a host community. They are assigned to a project based on their skillset, interest, and country needs, and work closely with host country counterparts, using minimal external resources. Current project areas include those in agriculture, community economic development, education, environment, youth in development, and health.²

PMI, launched in 2005, provides technical expertise and financial resources to reduce malaria morbidity and mortality in 27 focus countries, with 24 of these in sub-

Saharan Africa. PMI's 2015–2020 Strategy³ and the Malaria Strategic Plans of PMI partner countries guide the scale up and roll out of highly effective, proven interventions, including prompt diagnosis and treatment for malaria case management, insecticide treated bednets (ITNs), indoor residual spraying (IRS), seasonal malaria chemoprevention (SMC), intermittent treatment in pregnancy of malaria (IPTp), as well as support for social and behavior change and monitoring and evaluation work.

PMI-Peace Corps Partnership

In 2011, PC and PMI announced a formal partnership. Although the two organizations had worked together in the past, this partnership solidified their commitment to working together to combat malaria. Peace Corps and PMI are both present in 15 countries in sub-Saharan Africa, all of which have Peace Corps health programs. These countries are Benin, Cameroon, Ethiopia, Ghana, Guinea, Liberia, Madagascar, Malawi, Mozambique, Rwanda, Senegal, Sierra Leone, Tanzania, Uganda, and Zambia (Figure 1). Of the 7,367 Volunteers serving worldwide in 2019, 20% were placed in the health sector, and many of these worked with a health project in which malaria prevention and control were explicit objectives.⁴

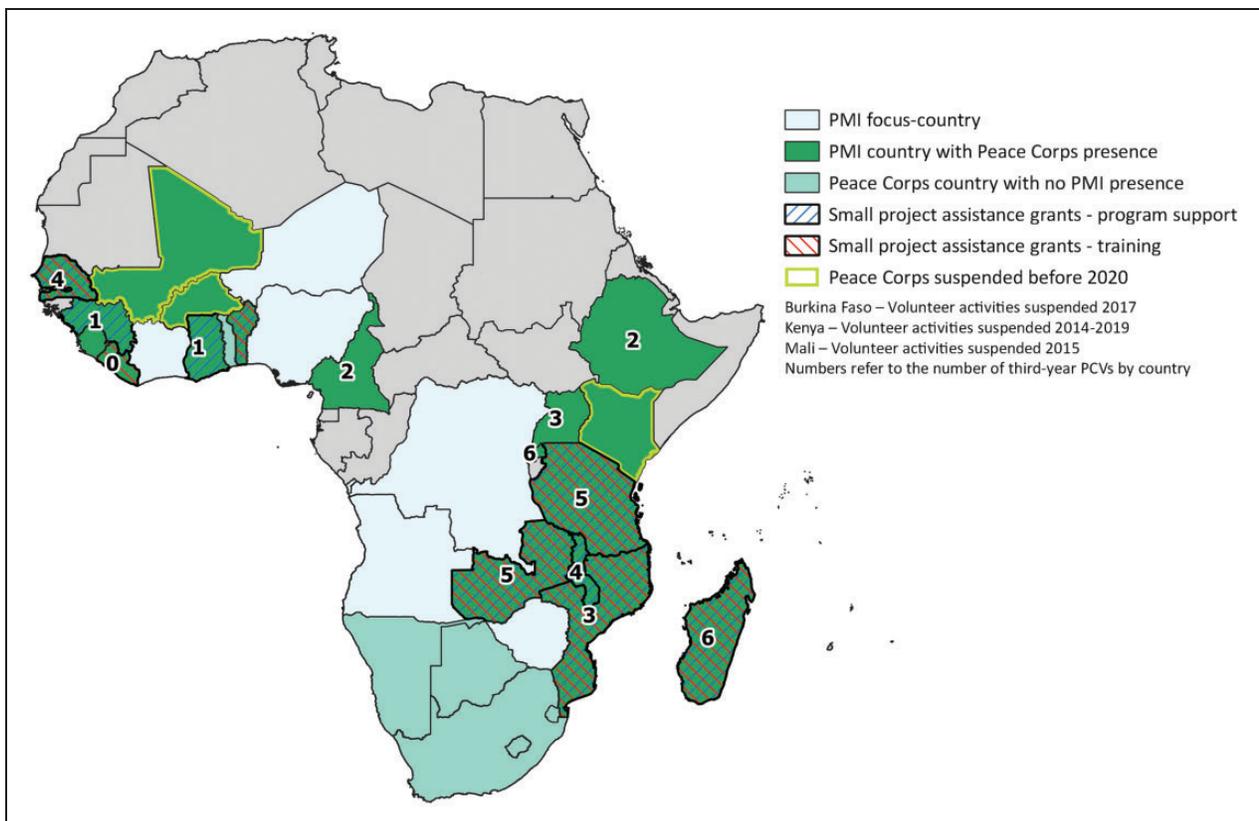


Figure 1. Peace Corps Coverage and PMI Countries 2014–2018.

Volunteers in sectors other than health living in malaria-endemic countries are able to work on malaria as a secondary project as well.

In 2011, Peace Corps initiated a training program called Stomping Out Malaria in Africa (STOMP), in which Peace Corps staff and Volunteers serving in malaria-endemic countries could apply to attend an intensive malaria “boot camp” in Senegal. The STOMP Initiative currently has three goals: working at the grassroots level, collaborating with partners, and sharing knowledge.⁵ PMI supported this training effort by coordinating teleconferences with international malaria experts who taught virtual sessions. Due to a strategic decision by Peace Corps in 2018 to decentralize training and leverage host country capacity, the STOMP effort transitioned to an in-country training program which Volunteers could attend with their counterparts with PMI in-country staff support.

PMI financially supports malaria-focused Small Project Assistance (SPA) grants, through which Peace Corps Volunteers can apply for funds to implement projects in their communities. Peace Corps maintains a grants management system, Peace Corps Grants Online, which documents Volunteer grant-funded projects for the purpose of reporting to donor organizations and evaluating the work of individual Volunteers, who have input financial, qualitative narrative, and quantitative indicator data. This database was accessed by one of

our authors (RN). In addition, financial records for SPA funding, including the PMI malaria operational plans were accessed by an author (AB). During Fiscal Years 2015–2019, PMI funded 317 malaria small projects (Figure 2) across 12 countries. Of these malaria small projects, 129 (41%) were focused on social and behavior change (SBC), 106 (33%) on training, 28 (9%) on direct Volunteer costs, 18 (6%) on case management, 18 (6%) on proper bednet use, 14 (4%) on educational resources, and 4 (1%) on other vector control projects.

Social and behavior change projects included World Malaria Day/week projects, awareness-raising through murals, camps or clubs focused on malaria, sports competitions such as bicycle tours or soccer tournaments, and health fairs. Trainings targeted Community Health Workers (at times using a Training of Trainers model) or Volunteers and their counterparts through STOMP Bootcamp or intensive malaria training. Direct Volunteer costs included Volunteer housing and travel, funding the STOMP Out Malaria coordinator as well as a Peace Corps Volunteer Leader. Peace Corps Volunteer Leaders (PCVLs) serve under the same terms and conditions as a PCV, except they are often 3rd year volunteers who are assigned special duties and leadership roles. For example, PCVLs can act as liaisons between PCVs and PC staff and counterparts, help to organize and lead trainings for PCVs and counterparts, and can offer guidance/advice to PCVs in the field. PCVs also

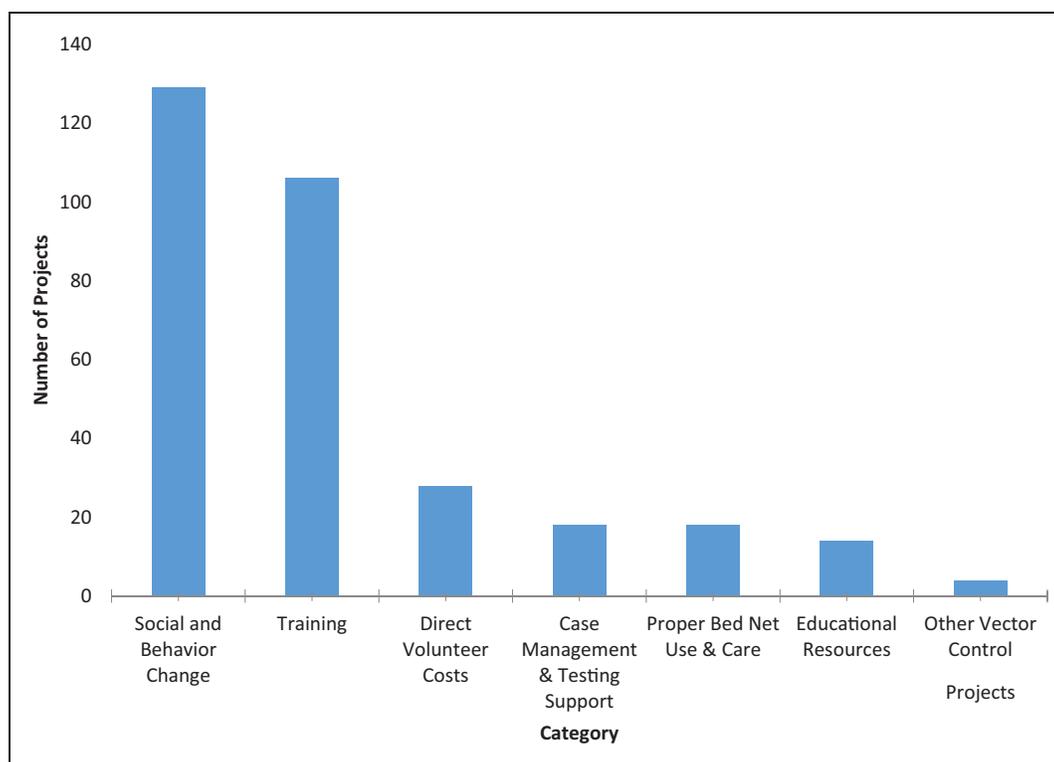


Figure 2. Peace Corps and Small Project Assistance (SPA) Activities 2015–2019.

worked on malaria case management projects aimed to ensure prompt diagnosis and treatment of malaria. One such project was the pilot of the ProActive Community Treatment model, described in detail in the case management section. Bednet use included supporting national bednet distribution campaigns and bednet repair and care. Educational resources included job aids, malaria training kits, guidebooks, and behavior change communication posters and brochures. Job aids assist health care workers, such as flip charts, booklets, and other visual aids. Other vector control projects included installation of drainage systems and screens on home windows and elimination of breeding sites.

The funding for projects during the period of 2015–2019 totaled nearly \$430,000 (Figure 3) averaging \$1,700 each. Volunteers and sponsoring community-based grantees typically implemented these grant projects collaboratively. Each grant must be community-initiated and directed, meet a determined community need, and promote sustainability and capacity building.⁶ From the beginning of their service, Volunteers are encouraged to think about and design potential projects. Volunteers must apply for funding and identify how the project fulfills the SPA objectives listed above ensuring that it aligns with the host country’s national strategic malaria control plan. The majority (41%) of SPA malaria grants awarded to Peace Corps Volunteers between 2015–2019 funded SBC projects. Many Volunteers participate each

April in World Malaria Day activities. In fiscal year 2018, 17% of activities funded by SPA malaria small grants took place on or around World Malaria Day.

PMI supports select Volunteers to extend for a third year of Peace Corps service to work on malaria in close collaboration with their country’s National Malaria Control Program (NMCP) and PMI. To calculate the total financial support provided for 3rd year extensions by PMI one would multiply (\$10,000 x number of 3rd year malaria PCVs) + (amount of SPA grant funding for malaria projects) per year. Between 2014 and 2018, PMI obligated nearly one million dollars to support Volunteers completing a third year of service focused on malaria. A third-year volunteer may be designated to coordinate malaria activities of other Volunteers in their host country, and work with PMI staff, PMI implementing partners, and NMCPs to support planning and implementation of priority malaria program activities such as ITN distributions, SMC campaigns, analysis of malaria data, and SBC campaigns.

Experiences From the Field

Some illustrative examples of Peace Corps Volunteers’ work supported by PMI in Rwanda, Benin, Zambia, Madagascar, and Senegal follow. These examples are highlighted because the most information was available about them and they are representative of a range of projects in the malaria field.

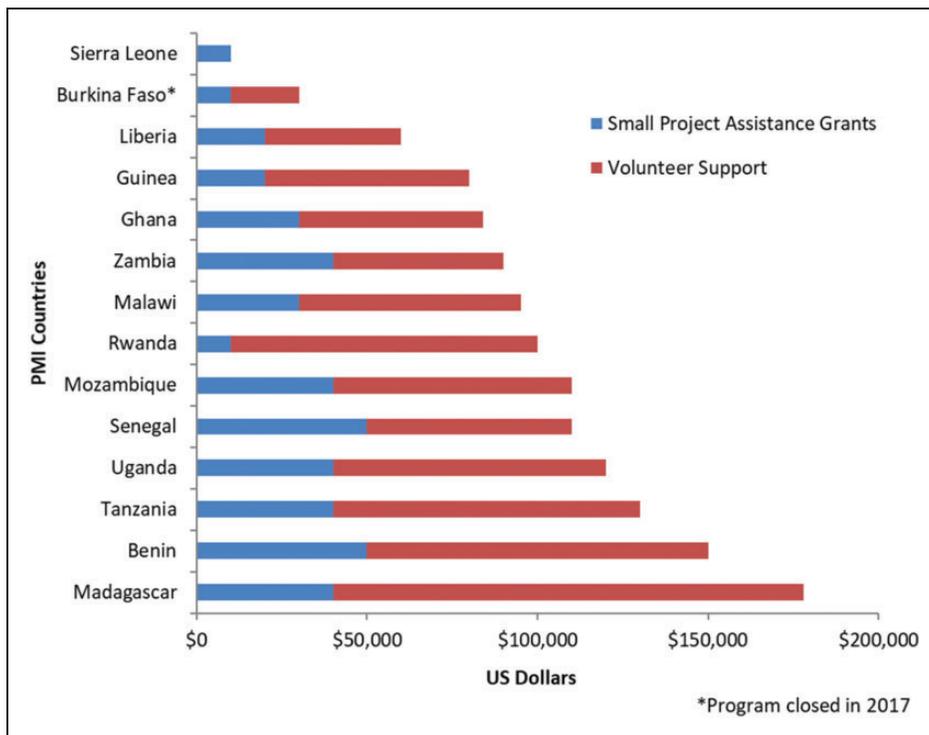


Figure 3. PMI Funds Obligated to Peace Corps, Fiscal Years 2014–2018.

Social and Behavior Change: Raising Community Awareness on Malaria Prevention and Control in Rwanda (2019)

SBC and community mobilization activities harness the strength of Volunteers: they provide behavior change messaging that is tailored to the context and communicated in a local language. For example, in rural Rwanda, one PCV participated in an event involving over 100 community health workers and other PCVs, who engaged students with malaria prevention messaging through theater, song, and athletics. Soccer games and races were planned alongside the malaria education activities that involved secondary school students and 800 primary school students. While youth primarily attended the event because of the music or sporting activities, they also heard strategic messaging about malaria prevention, including sensitization on IRS campaigns. After the sports events, the PCV gathered a group of 40 children to talk about malaria, answer questions, and compose a song in the local language.⁷ This type of behavior change communication activity can bolster malaria awareness and education in rural communities and has often coincided with and supported the NMCP and PMI partner activities such as bednet distributions.

Monitoring and Evaluation: Conducting a Community Malaria Survey in Benin (2015)

Volunteers in Benin worked with the monitoring, reporting, and evaluation members of the Peace Corps committee called *Benin Against Malaria*, to develop a community survey on malaria prevalence, costs, and demographics. The surveys were administered in conjunction with the host country. They aimed to capture the economic impacts for community members who were ill with malaria versus those who avoided infection through prevention measures. Peer educators received training facilitated by the Volunteers to reinforce behavior change communication skills and explain how to administer the survey. Thirteen peer educators, consisting of community health workers (CHWs) and health center staff, were trained by Volunteers on survey administration and behavior change communication skills. The survey was administered to approximately 400 community members.⁸

Vector Control: Assessing the Quality of ITNs in Zambia (2011–2013)

In Zambia, Volunteers assisted a team from PMI and the NMCP to implement a longitudinal study of ITN durability. The objective of the study was to test nets distributed in campaigns to assess the impact of temperature

extremes and various handling practices on insecticide effectiveness and physical integrity.⁹ Villages within study districts were chosen within the catchment area of Volunteers, who facilitated the data collection. Every other household was chosen from a complete roster of households within these villages, every other household was selected for data collection and Volunteers administered questionnaires and examined nets for repairs, burns, holes, and tears.¹⁰ Results from the ITN durability monitoring have been used to inform vector control decisions in Zambia, and subsequent ITN durability studies have continued with new ITN cohorts, with the most recent one beginning in 2018.

Vector Control: Promoting Indoor Residual Spraying in Madagascar (2018)

In Madagascar, PMI supported the implementation of IRS in high burden districts, such as Brickaville Health District on the East Coast. Household coverage for IRS must exceed 85% to be effective for malaria prevention. In 2018, six Volunteers in the Brickaville Health District collaborated with the PMI IRS implementing partner to help raise community awareness and acceptance of IRS. These Volunteers attended local advocacy meetings, assisted CHWs with sensitizing local populations as to how IRS prevents malaria, and participated in community mobilization activities during the IRS campaign, which resulted in 54,653 houses sprayed in Brickaville District and a 93% coverage rate.¹¹

Case Management: Initiating Pro-Active Community Case Management of Malaria in Senegal (2012–2013)

Perhaps the most programmatically impactful example of the collaboration between PMI and Peace Corps is the conception, piloting, and scale-up of Proactive Community Treatment (ProACT), commonly known by the French acronym PECADOM Plus. This model was inspired by the experience of a Senegal Volunteer and his counterpart CHW when a child in their village died from malaria after caregivers delayed seeking treatment, despite living very near the CHW. Perceiving that improved geographic access to care via CHWs did not automatically result in utilization of the CHWs, the PCV and his counterpart conceived a new approach to community case management in which CHWs would conduct weekly proactive fever checks or “sweeps” of all households in their village throughout the high transmission season. The CHWs, supported by Volunteers, would inform community members of the case management services provided, screen for symptoms of malaria, perform rapid diagnostic tests (RDTs) on those

reporting fevers, and treat cases of uncomplicated malaria with artemisinin-based combination therapy (ACT) following Senegal's national malaria case management guidelines.

Early involvement of the PMI team also facilitated involvement of the NMCP from the beginning. The details of the project are described elsewhere.¹² The involvement of PMI and the NMCP in the early pilot of PECADOM Plus was advantageous both in the development of the model and in the dissemination of results. In 2013, a second Volunteer who had been involved in the initial 2012 pilot worked with the health district to design and implement a study of the feasibility and effectiveness of PECADOM Plus funded with a SPA grant and designed in close collaboration with PMI and the NMCP. The results of the pilot study showed both a large increase in care seeking behavior on the days in between sweeps as well as a significant reduction in the prevalence of symptomatic malaria in the intervention villages. The NMCP subsequently adopted the strategy and has progressively scaled it up. Through the Peace Corps/PMI collaboration, what could have remained a successful but isolated project in a single village has instead been brought to scale, in 35 districts that span the southern part of the country where the malaria burden is highest, and the approach is being studied or piloted in other countries.

Factors Contributing to Success

Peace Corps Volunteers' field experience in social and behavior change, monitoring and evaluation, vector control and case management have all reinforced PMI interventions and national programs. The collaboration between Peace Corps and PMI, formalized in 2011, has remained vibrant and effective for malaria control. Several factors contribute to this successful partnership.

Geographic Proximity

The PMI-Peace Corps collaboration is an especially important opportunity to focus on reducing illness and death due to malaria at the community level. Highly motivated and well-trained Volunteers living and working in endemic malaria areas are linked with PMI and NMCP staff to carry out malaria prevention and control. The placement of national offices of the Peace Corps, the PMI team in USAID, and the NMCPs in capital cities facilitate this collaboration.

A productive synergy results from the insights that Volunteers and their local counterparts provide to PMI and the NMCPs. The support and guidance the NMCP and PMI team give Volunteers, with PMI financing for innovative strategies on a small scale, can

all impact national policy. This was seen with the scale up of the PECADOM Plus approach in Senegal.

Bidirectional Expertise

Realities on the ground may be misunderstood by those higher up in the health care system, whether through host government, NGO, or bilateral channels. Thus, Volunteers can play a helpful liaison or advocacy role between communities and policy makers. Volunteers' presence in communities and their ability to highlight the day-to-day challenges of these communities fighting malaria can be extremely helpful to national programs based in capital cities.

Continuity

Although Volunteers' service is time-limited, community counterparts and subsequent Volunteers are able to maintain continuity with their projects. For example, in Senegal in 2014, a third Volunteer continued the PECADOM Plus work, this time securing a SPA grant to provide support at the regional level for communication, supervision, and coordination as the NMCP started scaling up the strategy. In 2015, PECADOM Plus was extended to yet an additional region, and two Volunteers extended their service to continue supporting the scale-up.¹³ Innovations on the project continued when a Volunteer received a SPA grant to develop a mobile application; another worked with her health district to implement a version of PECADOM Plus in schools.¹⁴ In 2016, this small project that had begun in one village with one Volunteer had grown to 35 districts. The model has become one of the key strategies of the Senegal NMCP and has continued to be effective in increasing coverage of service delivery through the proactive use of CHWs to maximize the impact of investment in community case management.

Replicability

The community of practice created through the STOMP initiative facilitated the sharing of experiences and led to operational research of adapted models of proactive community case management outside of Senegal. In Benin, PMI and Peace Corps are collaborating on a small-scale pilot of PECADOM Plus, with an anticipated scale-up using PMI funding for local non-governmental organizations.¹⁵ In Madagascar, PMI and Peace Corps (including a third-year malaria Volunteer who had completed her first two years of service in Senegal) partnered with the Pasteur Institute to conduct a randomized control trial of PECADOM Plus, and plans are in place to scale up the program in selected districts with PMI funding.

The success of these projects showcases the potential of the partnership between Peace Corps and PMI together with NMCPs. The pairing of the on-the-ground presence and health system integration of Volunteers with the technical expertise and funding potential of PMI provides a unique opportunity to work with country governments at all levels to develop, expand, and sustain best practices. Although Volunteers do not provide medical services, the knowledge of Volunteers and the technical and policy expertise of PMI teams has been essential for successfully adapting this model to different country contexts.

Social Media

Volunteers actively and creatively use both social media and technology.¹⁶ Technology has enabled Volunteer networks to flourish, as a way to share best practices and innovative problem-solving ideas with other Volunteers in their host country of service, across their volunteer sector, and even across countries. Volunteers from multiple countries who participated in the Stomp Out Malaria “boot camps”, developed online communities of practice with other participating Volunteers and staff, which allowed for an exchange of project ideas and the opportunity for technical assistance and troubleshooting implementation challenges. Within countries, Volunteers have formed malaria-focused committees, who utilize social media and messaging platforms to communicate, plan projects, and maintain a vibrant network committed to malaria activities. Sharing videos or success stories via social media and the online community of practice can inspire volunteers to innovate on projects and make them work in their host communities.

Adaptability

A common challenge is to ensure that Volunteers propose and implement activities that reflect global, US Government and national guidance and strategies. Some PMI teams have more time, interest, and/or technical capacity than others to advise on project methodology, documentation, and evaluation. In addition, some Peace Corps country offices have more robust support for Volunteer malaria projects than others, and PMI in-country staff have needed to strengthen their relationships with their Peace Corps staff counterparts. This variation may call for additional briefing of Peace Corps country staff on the collaboration, enhanced individual country strategic plans, or engagement as to the level of interest of host country governments requesting Volunteer assistance. Finally, the transition from centralized “boot camp” malaria training to individual training in-country may have affected the consistency of technical and program orientation for Volunteers.

Peace Corps has adapted to this change by implementing in-country training sessions with counterparts, thereby leveraging the technical and training expertise of the NMCP, Peace Corps, PMI and other in-country malaria stakeholders. This approach aligns more readily with the goals of Peace Corps and PMI: it incorporates country priorities and the individual country’s malaria epidemiology into the training curricula.

Conclusion

Peace Corps Volunteers and their community counterparts are well placed to work on malaria prevention and control at the community level, with support from PMI. Between 2015 and 2019, Volunteers worked on over 300 small projects in malaria prevention and control. In Fiscal Year 2019, 1408 Volunteers contributed to malaria prevention and treatment activities in 18 Peace Corps programs across Africa, of which 15 are PMI focus countries. As this article has highlighted, Peace Corps can play a small but significant role within the global framework. This includes strengthening the health workforce and malaria expert base and empowering communities.

Volunteers intimately understand the priorities and challenges of malaria control in the communities they serve. This knowledge allows them to champion locally developed solutions, generating innovative interventions to increase access to early care and improve the uptake and understanding of preventive activities. Combined with the technical expertise and the relationships that PMI staff have with national-level counterparts in PMI focus countries, the collaboration between Peace Corps and PMI can accelerate the fight against malaria.

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