Background

As national malaria control programmes (NMCPs) successfully reduce malaria burden and begin approaching elimination, the activities and attention of health workers are often refocused to more pressing public health issues. As a result, there is a paradoxical reduction in the attention given to malaria as countries move closer to achieving their goal, which potentially extends the time needed to interrupt transmission. Concurrently, as the malaria burden declines, there is an increase in the complexity of the surveillance and response needs to achieve and maintain a country malaria-free. While control programmes achieve transmission reduction through standardization of approaches and universal coverage, elimination programmes succeed by attending to each individual case, investigating thoroughly the determinants of transmission in foci, and conducting highly focused activities in small areas where transmission persists.

As caseloads are reduced, programmes must reorient their focus to detecting and treating every confirmed case or cluster of cases of malaria. Elimination strategies require data on individual cases that are characterized and classified according to their most likely location of infection. The locations of infections should be geo-located to understand where transmission is occurring. This will direct appropriate investigation to determine the causes of transmission and facilitate appropriate response. Staff at all levels should be trained to examine and evaluate surveillance data on both disease and operations, and to monitor programme progress, target interventions and detect problems that require action. Entomological data should be collected to map receptive areas, inform the case classification process, and develop effective responses. The surveillance system must be sufficiently robust to capture all infections as the number of cases falls and clinical cases and asymptomatic infections are identified. The system must also be sufficiently sophisticated to fully characterize each infection and direct local investigations and clearance of transmission. In sum, malaria elimination programmes, with their requirement for intensive surveillance, focused investigations and tailored responses, must be more nimble and flexible than malaria control programmes and require a different skillset for their human resources.

At present, many countries with elimination goals lack the skilled human resources and experience with surveillance and response to achieve their objective. Updated national elimination guidelines, tools for case-based surveillance, guidance for focus investigations, reliable supervision and monitoring systems, entomological expertise to inform surveillance and response activities, appropriate data management and analysis capacity, and the communications strategies to engage health providers and communities may all be inadequate to attain elimination and approach certification. In addition, countries with ongoing malaria control challenges in certain areas may not
have the expertise and resources needed to support those subnational areas with malaria elimination goals.

To address the shortage of skilled staff and build such capacity in these countries, WHO’s Global Malaria Programme (WHO-GMP), through the WHO regional and country offices, is looking to replicate the successful model of the 20-year-old Stop Transmission of Polio (STOP-Polio) programme, which is part of the Global Polio Eradication Initiative.

WHO believes that short- and long-term benefits will accrue from a STOP-Malaria approach similar to that of STOP-Polio. STOP-Malaria fellows will provide an independent voice to rapidly move elimination activities forward. They will work at the local level where capacity needs are greatest, but they will have the ability to move around more freely in countries as temporary WHO/United Nations staff rather than as private citizens associated with governmental or nongovernmental organizations. Both the receiving countries and the fellows themselves will gain from the collaboration. Fellows will gain invaluable international experience that they can apply to strengthening malaria control and elimination programmes in their countries of origin and/or to working further with global health projects. In these ways, the STOP approach is a unique approach: addressing a public health problem rapidly, building a cadre of international experts in malaria surveillance and response, and strengthening disease surveillance and response at the provincial, district or other subnational level where it is needed the most.

1. The STOP model

The STOP-Polio programme is part of the GPEI, which was launched in 1988 by the World Health Assembly. Many countries have a shortage of skilled public health staff available to fully support polio eradication and other immunization-related efforts. WHO – working in conjunction with national ministries of health – requests skilled, short-term consultants to support immunization programmes by tracking acute flaccid paralysis (AFP), one of the warning signs of possible polio; conducting AFP case investigations and follow-up; and supporting national immunization days. STOP team members are sent on 11-month assignments to support these efforts. The US Centers for Disease Control and Prevention (CDC) provides scientific and technical expertise to GPEI, including coordinating the recruitment, training and deployment of STOP fellows, who are considered WHO consultants once they are deployed in country.

The first STOP team consisted of 25 participants, all of whom were CDC staff members. Over time, citizens from the international community have become increasingly involved in the programme. Current STOP teams are comprised largely of public health professionals from around the world, reflecting the global commitment to polio eradication. In addition, team sizes have grown substantially over the years. Currently, more than 200 participants are deployed during the programme’s annual cycle, selected from more than 2000 applicants. While no salary compensation is provided, the programme does support pre-service training in Uganda, travel costs to and within the deployment site, and a daily living allowance. STOP alumni have often been selected for long-term global health assignments, including for malaria programmes.

An evaluation of the STOP-Polio programme in three African countries found the provision of technical knowledge to be an important component of the STOPers’ contributions. Equally important, respondents found that STOPers addressed fatigue among local health workers and motivated local staff, provided an external perspective and shared best practices from elsewhere. STOPers were also seen as ‘outside the system,’ able to bring an objective view and escalate sensitive issues by challenging the status quo.
2. Applying the STOP–Polio model to STOP-Malaria

The STOP-Polio programme provides a successful model for how to channel global expertise in public health, epidemiology and surveillance in a cost-efficient manner to countries that are close to achieving elimination targets and need critical, time-limited support in particular areas of the country. The STOP-Polio programme has proven to be very successful at recruiting well-trained, mid-career professionals who are looking to build experience in global public health. By partnering with CDC to assist with the recruitment and training of STOPers and deploying STOPers in-country under WHO, STOP-Malaria will be able to take advantage of a proven recruitment and deployment system, along with CDC and WHO technical expertise, WHO in-country assistance and supervision, an existing monitoring and evaluation system, and WHO’s mandate to support ministries of health.

The provision of extended technical assistance through this proposed programme (“Stop Transmission of Parasites of Malaria” or STOP-Malaria) will contribute field-experienced public health practitioners to provincial, state or district health teams in selected eliminating countries, under the umbrella of the WHO country office, to assist in initiating, implementing, monitoring and evaluating critical malaria elimination activities for which skilled, local expertise may be lacking or insufficient. In addition, the STOP-Malaria experts will be trained in effective mentorship practices and expected to work closely with counterparts to build local knowledge, skills and experience in order to permit mentees to conduct similar activities in the future. Findings from the evaluation of the STOP-Polio programme suggest that ancillary benefits would also likely accrue, including increased motivation of local staff and discovery of new ways to approach old problems.

WHO has already successfully deployed subnational consultants to support malaria elimination in a number of countries. Subnational consultants were deployed in Guatemala, Ecuador and Bhutan in 2017–2018 to support intensive focus investigation and microplanning and reduce malaria transmission in delimited areas. These deployments were received favourably by the countries and provided much needed focus and attention to key geographic areas with established malaria elimination goals.

3. Purpose and objectives of STOP-Malaria

The objectives of STOP-Malaria are to strengthen the subnational technical and operational capacity of malaria-eliminating countries to eliminate the last foci of transmission in the country. The initiative will provide an ongoing source of well-qualified, field-oriented technical staff, trained and monitored jointly by the three levels of WHO and CDC. The initiative will also provide additional training to in-country staff to improve their capacity to eliminate malaria transmission.

4. Innovations to STOP-Malaria

The STOP-Polio programme has been in place for 20 years, and many lessons have been learned over the decades of operation. Several adaptations to improve the model for malaria elimination include:

1. addition of entomology and vector control to the potential competencies of STOPers;
2. inclusion of national malaria programme staff and WHO national programme officers (NPOs) in STOP-Malaria training in order to improve in-country capacity and cover gaps between STOP-Malaria contracts;
3. a comprehensive M&E framework to monitor progress and evaluate impact.
5. Timeline

WHO is launching a pilot STOP-Malaria programme to rapidly roll out subnational assistance to five eliminating countries, while testing the basic approach and administrative requirements and preparing a larger proposal to funders that will be needed for a sustained programme. The first STOP-Malaria fellows will participate in training late in the 3rd or early in the 4th quarter and begin their assignments by October 2019. The timeline in Fig. 1 highlights the major steps in the implementation of the STOP-Malaria pilot programme.

The full proposal for funding of a sustained STOP-Malaria programme will be prepared during the first quarter of 2019 and shared with all stakeholders through a consultative process to ensure open dialogue and feedback.

6. Roles and responsibilities

1. STOP-Malaria fellows
   a. Satisfactorily complete required pre-departure training, orientation and administrative requirements.
   b. Adhere to all rules, regulations and any other guidelines established by the WHO country office.
   c. Submit weekly activity reports by email, prepare technical reports according to the guidelines established by the country office, and submit an end-of-mission report to the WHO Representative and GMP prior to departure from the country.
   d. If currently employed, provide confirmation of current supervisor’s agreement to allow the team member to participate, without salary reimbursement to the team member’s home office.
   e. Conduct initial situation analyses to understand the coverage and quality of elimination activities in the assigned area, develop an action plan with counterparts, assist in implementation of action plan, and monitor activities and impact.

2. WHO-GMP
   a. Provide overall coordination and management of the STOP-Malaria programme;
   b. Coordinate matching of candidates and country placements with CDC and WHO regional and country offices;
   c. Provide WHO non-staff, non-remuneration contracts for all STOPers, including health insurance and travel requests authorizing round trip travel between home and training venue and home and duty station.
   d. Provide a daily living allowance for the full period of the assignment to cover lodging, meals and miscellaneous incidental expenses while on assignment.
   e. Provide a technical and operational team to manage the programme, to include representation from the WHO regional offices.
   f. Implement annual training for new STOPers on malaria elimination strategies and activities.
   g. Match a headquarters- or regional office-based monitor responsible for technical and operational guidance to STOPers while on assignment.
h. Develop and maintain online activity monitoring application and dashboard to monitor STOPers’ activities through weekly reports.

i. Provide funds for agreed in-country activities including in-country orientation and a vehicle rental per assignment country, if needed.

3. National malaria programme
   a. Complete the request for a STOP-Malaria fellow in conjunction with the WHO country office.
   b. Identify the optimal subnational location(s) for the STOPer.
   c. Review and advise on terms of reference for the STOPer.
   d. Orient the STOPer to the malaria situation in the country, the national malaria elimination strategy and local malaria epidemiology in the assignment area.
   e. Provide an appropriate counterpart to the STOPer in the assignment area.
   f. Participate in the performance review of the STOPer.

4. WHO country office
   a. Complete the request for a STOP-Malaria fellow in conjunction with the national malaria programme.
   b. Release WHO malaria focal point to attend the STOP training during the first year of a STOP-Malaria fellow.
   c. Provide in-country orientation to the STOPer to introduce and orient them to the WHO country office, NMCP, elimination partners and specific in-country technical issues.
   d. Provide in-country supervision of the STOPer’s activities.
   e. Flag potential issues or bottlenecks early to the STOP-Malaria technical and operational team for prompt resolution of problems.
   f. Work with the NMCP to identify the appropriate subnational location(s) for the STOPer.
   g. Agree on the specific terms of reference for the STOPer in country.
   h. Facilitate identification of appropriate accommodations.
   i. Provide logistical support for transportation and activities.
   j. Review STOPer’s performance at the end of the tour and recommend renewal of contract.

5. WHO regional office
   a. Participate in the technical and operational team to manage the programme.
   b. Identify potential assignments for STOPers and introduce the programme to WHO country offices and NMCPs.
   c. Participate in the STOP training.
   d. Develop and implement a plan to mentor and monitor the STOPer in conjunction with the WHO country office malaria focal point.
   e. Provide technical oversight to the STOPer.
6. **CDC Malaria Branch**
   
a. Assist WHO in the development and implementation of the pre-deployment training programme.

b. Review CVs, interview candidates and recommend STOPers to WHO based on the agreed list of priority placements.

c. Assist in the development of standard operating procedures and audit tools for the STOPers.

d. Provide a technical and operational team to manage, monitor and evaluate the programme.

e. Lead the evaluation of the impact of the STOP-Malaria programme.

7. **CDC Polio Branch**
   
a. Advise on programme strategy development and implementation, drawing from lessons learned from 20 years of STOP-Polio.

b. Provide and manage the system for the advertisement of the STOP-Malaria programme, recruitment of STOPers, review of CVs, interviews and selection of fellows.

c. Advise on developing weekly reporting system and evaluation strategy for STOP-Malaria.

d. Participate in annual evaluations of STOP-Malaria’s impact.

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**Figure 1. Timeline for launching the STOP pilot programme**

**Abbreviations**

RO: WHO regional offices; CDC: US Centers for Disease Control and Prevention; WHO: World Health Organization; GMP: Global Malaria Programme; WCO: WHO country office