Funding Request Form

Allocation Period 2020-2022

Full Review

Refer to the "Full Review" Instructions to complete this form.

Summary Information

Country(s)	Nepal
Component(s)	Malaria
Planned grant(s) start date(s)	16-March-2021
Planned grant(s) end date(s)	31-July-2024
Principal Recipient(s)	Save the Children Federation Inc.
Currency	USD
Allocation Funding Request Amount	4,156,410
Prioritized Above Allocation Request (PAAR) Amount[1]	1,822,000
Matching Funds Request Amount[2] (if applicable)	NA

The Global Fund

[1] PAARs can only be submitted with the Funding Request. To complete a PAAR, fill-in the Excel template that you will receive from the Global Fund Secretariat.
[2]This is only relevant for applicants with designated matching funds as indicated in the allocation letter.

Section 1: Context Related to the Funding Request

To respond to the questions below, refer to the *Instructions* and **Essential Data Table(s).**

1.1 Key References on Country Context

List key reference documents referred to in this funding request that provide the country's contextual cross-cutting and disease-specific information. A list of which types of documents can be used is included in the *Instructions*.

Reference document	Link/Attachment reference	Relevant section(s) and/or page(s)
Nepal Malaria Strategic Plan 2014-2025 (UPDATED). Epidemiology and Disease Control Division, Department of Health Services, Ministry of Health and Population, Government of Nepal. 2020.	1	All pages
Funding request guidelines, instructions. The Global Fund. 2019-2020. https://www.theglobalfund.org/en/funding-model/applying/materials/	2	All pages
Sturrock HJ, Roberts KW, Wegbreit J, Ohrt C, Gosling RD. Tackling imported malaria: an elimination endgame. The American journal of tropical medicine and hygiene. 2015. 8; 93(1): 139-44.	3	4
Smith et al. Designing malaria surveillance strategies for mobile and migrant populations in Nepal: a mixed-methods study. Malar J (2019) 18:158.	4	6
National Malaria Surveillance Guidelines. Epidemiology and Disease Control Division, Department of Health Services, Ministry of Health and Population, Government of Nepal. 2019.	5	6, 10, 26, 35-37
Malaria Microstratification. 2018. Epidemiology and Disease Control Division, Department of Health Services, Ministry of Health and Population, Government of Nepal. 2018.	6	7, 8, 19, 25
Malaria Microstratification. 2019. Epidemiology and Disease Control Division, Department of Health Services, Ministry of Health and Population, Government of Nepal. 2019.	7	7, 8, 19, 26
National Health Sector Strategy Implementation Plan 2016-2021. . Ministry of Health and Population, Government of Nepal. 2016.	8	10
Mintcheva R, Hewitt S, Premaratne R, and Nagpal B. Malaria Program Review in Nepal, 2017. Epidemiology and Disease Control Division, Department of Health Services, Ministry of Health and Population, Government of Nepal and World Health Organization. 2017.	9	10, 18, 19, 26, 35, 46
Ministerial declaration on Accelerating and Sustaining Malaria Elimination in South-East Asia Region. 2017. http://origin.searo.who.int/entity/malaria/sea_declaration_malaria_elimination.pdf	10	10, 21
Nepal Health Sector Strategy 2015-2020. Ministry of Health and Population, Government of Nepal. 2015.	11	10, 26
National Guideline on Integrated Vector Management. Epidemiology and Disease Control Division, Department of Health Services, Ministry of Health and Population, Government of Nepal. 2020.	12	11, 26, 36, 40, 41
National Malaria Treatment Protocol. Epidemiology and Disease Control Division, Department of Health Services, Ministry of Health and Population, Government of Nepal. 2019.	13	11, 19, 26, 28, 30, 32-34, 37
Dotel BR. Health care delivery system in federal context. Joint Annual Review. Ministry of Health and Population, Government of Nepal. 2017.	14	12
Thapa R, Bam K, Tiwari P, Sinha TK, Dahal S. Implementing federalism in the health system of Nepal: opportunities and challenges. International journal of health policy and management. (2019) 8(4): 195.	15	13
An urgent front: Cross-border collaboration to secure a malaria-free South-East Asia Region. World Health Organization. Regional Office for South-East Asia. https://apps.who.int/iris/handle/10665/274309. 2017.	16	15
National Review of Sustainable Development Goals. National Planning Commission.	17	15

Government of Nepal. 2020.		
Human Development Report. Nepal. UNDP. 2019.	18	15
Human Development Report 2019. Gender Inequality Index. http://hdr.undp.org/en/composite/GII	19	15
CCM (R)evolutions. Lessons and inspirations from four countries. Nepal, Pakistan, Papua New Guinea, Sri Lanka: Final Report. APCASO. 2020.	20	16
Malaria matchbox tool. https://endmalaria.org/sites/default/files/Malaria%20Matchbox%20Tool_en_web.pdf	21	17
Amatya P, Ghimire S, Callahan KE, Baral BK, Poudel KC. Practice and lived experience of menstrual exiles (Chhaupadi) among adolescent girls in far-western Nepal. PloS one. 2018 Dec 10; 13(12): e0208260 (https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0208260)	22	17
Mitra Samaj. Mapping the landscape of current practices in the private sector in 27 malaria endemic districts of Nepal. 2018. Available online at: https://mitrasamaj.org/Our%20Work/mapping-the-landscape-of-current-practices-in-the-private-sector-in-27-malaria-endemic-districts-of-nepal/	23	18, 26
Private sector engagement guidelines. Epidemiology and Disease Control Division, Department of Health Services, Ministry of Health and Population, Government of Nepal. 2019.	24	18, 26, 32
Report on post distribution HH survey for assessing LLINs availability and its use. Sustainable Development Initiative Network (SUDIN), Nepal. 2019.	25	19
Interim guidance on malaria services during COVID-19 pandemic. EDCD, MoHP. Government of Nepal.	26	20
Malaria catch up plan. EDCD, MoHP. Government of Nepal.	27	20
Mitigating the Impact of COVID-19 on Countries Affected by HIV, Tuberculosis and Malaria. The Global Fund. 2020.	28	20
"COVID-19: Operational guidance for maintaining essential health services during an outbreak. World Health Organization. 2020. https://www.who.int/emergencies/diseases/novel-coronavirus-2019/related-health-issues	29	20
Framework for malaria elimination. World Health Organization. 2017.	30	22
APLMA Leaders' Malaria Elimination Roadmap: A high-level framework for the Asia Pacific. https://www.aplma.org/upload/book/leaders-roadmap.pdf	31	22
Global Technical Strategy for Malaria 2016-2030. World Health Organization. 2015.	32	22, 26
Country dialogue for development of the GF Funding Request: Report. Epidemiology and Disease Control Division, Department of Health Services, Ministry of Health and Population, Government of Nepal. 2020.	33	24, 26
Malaria surveillance, monitoring & evaluation: a reference manual. World Health Organization. 2018.	34	26
Nepal 2020-2022 allocation letter. The Global Fund. 2019.	35	26
Global Fund Portfolio Analysis. The Global Fund Country Team. 2020.	36	26
Audit Report Global Fund Grants in Nepal, GF-Office of the Inspector General-19-015. The Global Fund. 2019.	37	26
Technical brief for countries preparing malaria funding requests for the Global Fund (2020–2022). World Health Organization. 2020.	38	26
National Lab Plan for Malaria 2020-2025. Epidemiology and Disease Control Division and National Public Health Laboratory. Department of Health Services, Ministry of Health and Population, Government of Nepal. 2020.	39	26, 29, 31, 35, 36, 52
Hewitt S. Malaria surveillance assessment. Epidemiology and Disease Control Division. Epidemiology and Disease Control Division, Department of Health Services, Ministry of Health and Population, Government of Nepal. 2018.	40	26, 36
Marasini et al. G6PD deficiency in malaria endemic areas of Nepal. Malar J (2020) 19:287. https://doi.org/10.1186/s12936-020-03359-6	41	34, 47
Zero malaria Starts with me. https://www.who.int/campaigns/world-malaria-day/world-malaria-day-2020; https://endmalaria.org/sites/default/files/Zero%20Malaria%20Toolkit%20Final.pdf	42	39

Data Quality Audit Tool: guidelines for implementation. Chapel Hill, NC, MEASURE Evaluation, 2008 (http://www.cpc.unc.edu/measure/tools/monitoring-evaluation-systems/data-quality-assurance-tools/dqa-auditing-tool-implentation-guidelines.pdf) F	43	46
Assessment of Therapeutic Efficacy of Anti-Malarial Drug (Chloroquine) Against *Plasmodium Vivax* Malaria in Kanchanpur and Kailali Districts. EDCD, MoHP. Government of Nepal.	44	47
Public Procurement Act, 2063, Government of Nepal. 2007.	45	56
Global Plan for Insecticide Resistance Management. World Health Organization. 2012.	46	58

1.2 Summary of Country Context

Explain critical elements of the **country context** that informed the development of this funding request. The following points should be addressed in the response:

- The epidemiological context and other relevant disease-specific information;
- Information on disease-specific and the overall health systems, along with the linkages between them;
- Relevant key and/or vulnerable populations;
- Human rights, gender and age-related barriers and inequities in access to services;
- Socio-economic, geographic, and other barriers and inequities in access to health services;
- Community responses and engagement; and
- The role of the private sector.

Refer to information provided in the key reference documents listed in **Section 1.1**.

Epidemiological context and other relevant disease-specific information:
The Federal Democratic Republic of Nepal is a landlocked country with diverse geo-ecology bordering India in the south, east and west, and China in the north. The country with a population of around 29 million people in 2019 has demonstrated a substantial progress in reducing malaria burden over the years and has achieved zero death since 2017. With these achievements, the country aims to consolidate the gains secured so far and accelerate efforts to interrupt local malaria transmission and end indigenous malaria to zero case by 2022 and achieve malaria elimination by 2025. However, notwithstanding the accomplishments, malaria remains a priority public health problem in Nepal, with more than 40% of the population still at risk of malaria and a significant proportion of malaria are imported (imported malaria constituted ~80 percent of the total malaria burden in 2019) which poses potential threat to the elimination efforts. There is a persistent concern that high importation of malaria may lead to re-introduction of malaria in receptive areas. As countries move towards malaria elimination, imported infections become increasingly significant as they often represent majority of the cases, can sustain transmission, cause resurgences, and lead to mortality.[3]

The highest number of confirmed malaria cases was recorded in 1985 in Nepal (>42,000) due to an outbreak. Since then, there was a steady decline with the exception of upsurges in 1991 and 2002-03. Nepal exceeded the targets set for the Millennium Development Goals much before 2015 with significant decline in malaria cases. Over the last decade, confirmed malaria cases had declined from 3,004 in 2010 to 710 in 2019 (recording a decline of 76%). During this period, malaria parameters – Annual Parasite Incidence (API) and Slide Positivity Rate (SPR) have also shown considerable reduction. The API was <1/1,000 population at risk in 2019. Recorded malaria deaths reached zero in 2012 and were almost maintained until 2019, although three deaths (all imported cases) were reported in 2016 (Table-1). It is seen that testing of suspected malaria cases is low as reflected by annual blood examination rate (ABER); and improving this parameter is critical and is being pursued. Progressive increase in ABER from 2016 is noted although has not achieved the target. With uninterrupted supply of diagnostics in all risk areas up to the lowest level of health facilities and along with community level testing, and private

[3] Sturrock, H. J. W. Tackling Imported Malaria: An Elimination Endgame. Am. J. Trop. Med. Hyg., 93(1), 2015, pp. 139–144

sector engagement further improvement is expected in coming years.

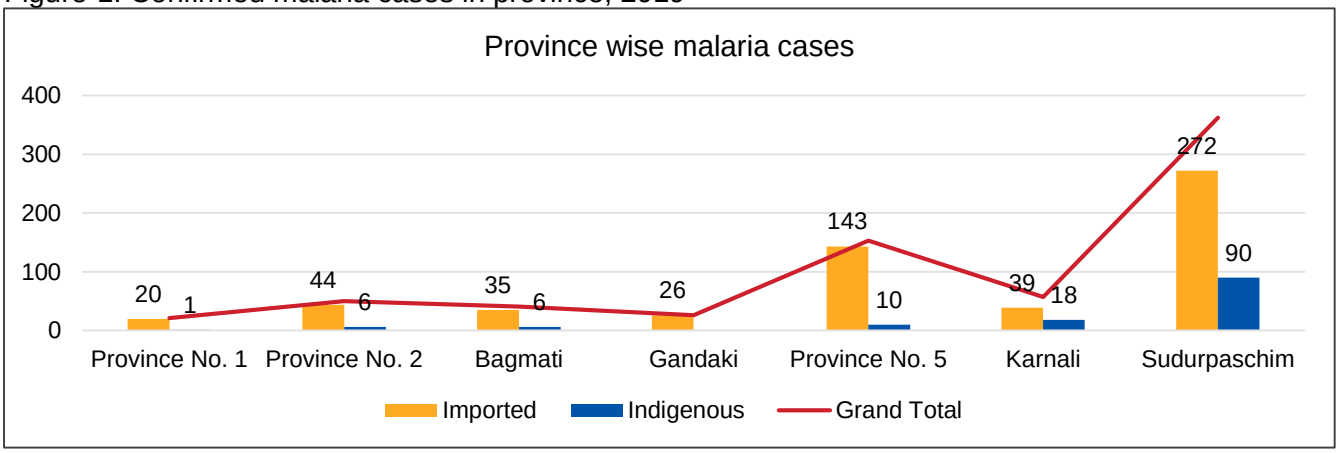
Table-1: Epidemiological Indicators of Malaria, 2010-2019

Year	Population (in '000)	Population in high, moderate, low risk areas (in '000)	BSE (microscopy/RDT)	Total positive cases	Total indigenous cases	Total imported cases	Total P. falciparum cases	%Pf cases	Total P. vivax cases	Annual Blood examination rate (ABER) [%]	Annual Parasite Incidence (API)	Slide Positivity Rate (SPR) [%]	Deaths due to malaria
2010	2,67,01	2,67,01	135997	3,004	1,756	1,314	895	29.8	2,109	0.51	0.11	2.2	6
2011	2,69,70	2,69,70	113225	2,631	1,555	1,079	592	22.5	2,018	0.42	0.10	2.3	2
2012	2,68,52	2,68,52	152538	2,092	1,106	1,026	428	20.5	1,664	0.57	0.08	1.4	0
2013	2,64,95	1,30,25	112379	1,974	1,024	950	325	16.5	1,649	0.86	0.15	1.8	0
2014	2,67,01	1,32,01	108845	1,469	832	637	315	21.4	1,154	0.82	0.11	1.3	0
2015	2,69,70	1,33,79	113595	1,112	591	521	211	19.0	902	0.85	0.08	1.0	0
2016	2,73,37	1,35,60	137027	1,009	507	502	163	16.2	846	1.01	0.07	0.7	3
2017	2,77,08	1,37,23	162062	1,265	534	731	103	8.1	1,162	1.18	0.09	0.8	0
2018	2,80,84	1,38,87	224699	1,182	541	641	59	5.0	1,123	1.62	0.09	0.5	0
2019	2,92,49	1,22,25	223998	710	131	579	63	8.9	647	1.83	0.06	0.3	0

Source: EDCD, MoHP, GoN

Malaria transmission is unstable and is found in variable degrees of endemicity in all the seven provinces, but the incidence is highest in the Sudurpaschim province. Confirmed malaria cases categorized by province in 2019 are presented in Figure-1.

Figure-1: Confirmed malaria cases in province, 2019



Source: EDCD, MoHP, GoN

Such success under the aegis of the Ministry of Health and Population, Government of Nepal (GoN) has been made possible with an effective and successful malaria programme. Besides gradually increasing domestic investments, additional funding support by the Global Fund (GF) has played and continues to contribute a significant role towards the impact in Nepal's malaria programme. Technical support by the World Health Organization (WHO) as well as technical and implementation support by the current Principal Recipient (PR) of the GF grant - Save the Children International (SCI) have been key elements aiding this successful journey. Technical support by various other partners such as USAID (supporting JHPEIGO), research and academic institutions have also played a critical role. National malaria strategic plan that envisioned scaling up of interventions such as early diagnosis and prompt treatment with rapid

malaria diagnosis, artemisinin-based combination treatment, distribution and high coverage of long lasting insecticide-treated nets (LLINs) and targeted indoor residual spraying in line with integrated vector management, as well as progressive strengthening of surveillance and response, monitoring and evaluation, and capacities are some of the contributing factors towards successes of the national malaria programme.

Indigenous and imported cases: Of the total cases in 2019, only 131 cases were classified as indigenous (18%), whilst 579 cases were classified as imported[4] (82%). Indigenous cases have been declining over the years paving way for interruption of local transmission.

A large number of Nepalese population migrates outside the country for work, some as long-term workers, while others as seasonal workers in search of better opportunities as laborers, agricultural & forest workers, and security guards to high malaria endemic states of India. Imported malaria through these returning work-force contributes to the changes in epidemiological patterns and trends and continues to pose threat in terms of high importation of cases which might lead to outbreak when case detection, investigation is not optimal and at times lead to re-introduction of malaria in previously malaria-free areas. In the last few years (2017-19) [Table-2], majority of imported cases have history of exposure in India. In 2019, of the 579 imported cases, 463 cases had exposure history in India and three states contributed >100 each (cases with history of travel in Gujarat, Maharashtra, and Uttar Pradesh accounted for 80% of all imported cases returning from India in 2019). Of these, Uttar Pradesh has a long and porous international border on the southern side of Nepal. More than 10 imported cases (range 14-25) have origin in Bihar (borders Nepal), New Delhi, and Tamil Nadu. Imported cases also have origin in other Indian states (n=16) and elsewhere, for instance, among security personnel returning from UN missions in Africa and few travelers.

Table-2: Indigenous and imported cases in province, 2017-2019

Province	2017		2018		2019		**Total**
	Imported	Indigenous	Imported	Indigenous	Imported	Indigenous	
Province No. 1	19	9	13	4	20	1	**66**
Province No. 2	66	36	53	5	44	6	**210**
Bagmati	29	11	32	10	35	6	**123**
Gandaki	31	10	24	4	26	0	**95**
Province No. 5	188	79	179	62	143	10	**661**
Karnali	67	62	49	260	39	18	**495**
Sudurpaschim	331	326	291	196	272	90	**1506**
Total	**731**	**533**	**641**	**541**	**579**	**131**	**3156**

Source: EDCD, MoHP, GoN

Population mobility and malaria importation from India are key challenges to malaria elimination in border areas and beyond. There is a need to better understand characteristics of mobile and migrant populations and identify specific ways in which malaria surveillance and response can be adapted to optimize coverage and case detection. Targeted intervention tailored to their context as well as leveraging their social connectivity/networks, can facilitate in designing community and peer-referral based approaches to achieve malaria elimination.[5] Attempt is being made to further strengthening of analysis towards strategic planning and implementation including strengthening interventions within national boundaries as well as initiating effective cross-border collaboration based on the National Malaria Strategic Plan (NMSP) 2014-2025 (updated version-2020) and other national and international

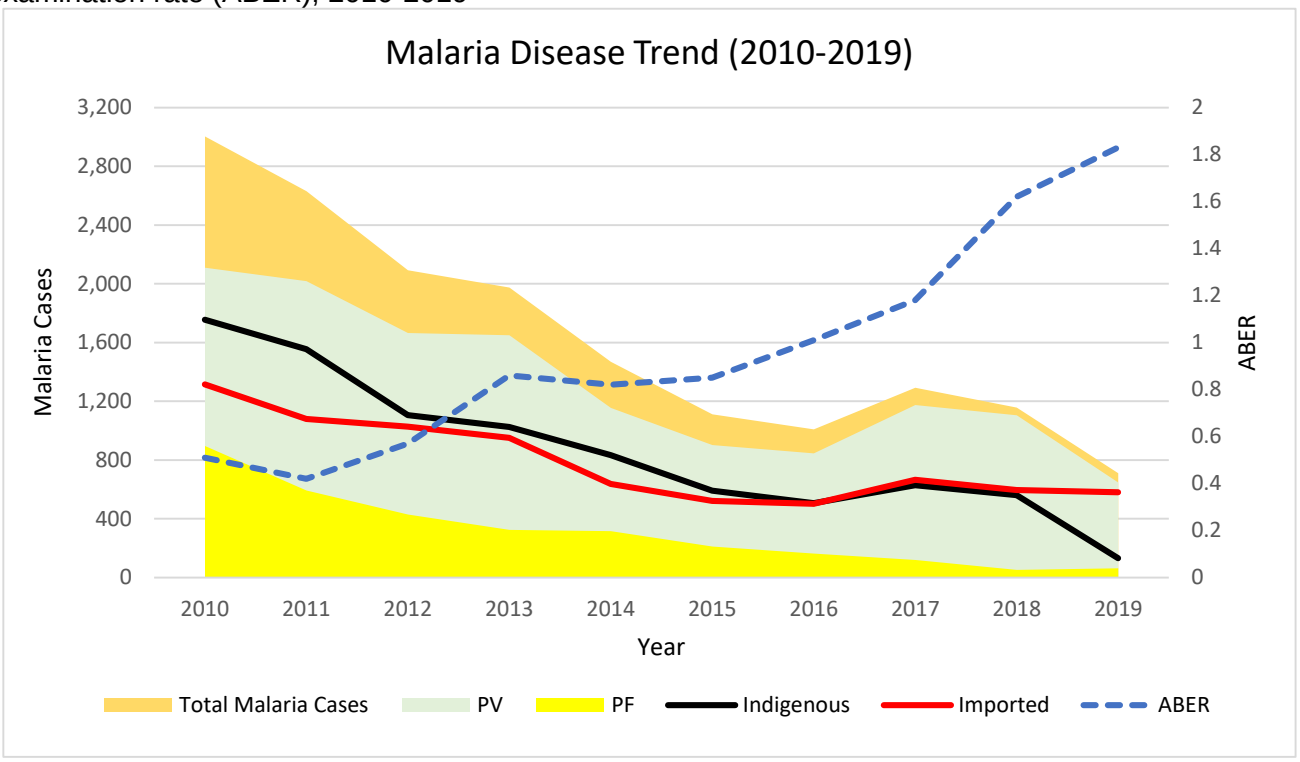
[4] An imported case is one that is due to mosquito-borne transmission and is acquired in another country. National Malaria Program has standardized the initial classification of 'imported' malaria as a confirmed case of malaria detected within 1 month of return from an endemic area outside Nepal. National Malaria Surveillance Guidelines. 2019. EDCD. MoHP. GoN

[5] Designing malaria surveillance strategies for mobile and migrant populations in Nepal: a mixed- methods study. Smith et al. Malar J (2019) 18:158.

guidelines.

Malaria parasites: In Nepal, malaria is mainly caused by parasite *Plasmodium vivax* (*P. vivax*) and the relative proportion of vivax infections is increasing over the years. In 2019, ~90% of the cases were caused by *P. vivax*, while only ~10% of the cases were caused by *Plasmodium falciparum* (*Pf*). The relative proportion of *P. vivax* cases have been increasing from ~70% in 2010 to 91% in 2019, the proportion of Pf is correspondingly decreasing from around ~30% in 2010 to 9% in 2019. Figure-2 presents annual number of reported confirmed malaria cases from 2010 to 2019 by species and origin.

Figure-2: Annual number of reported confirmed malaria cases (by species and origin) and annual blood examination rate (ABER), 2010-2019



Source: EDCD, MoHP, GoN

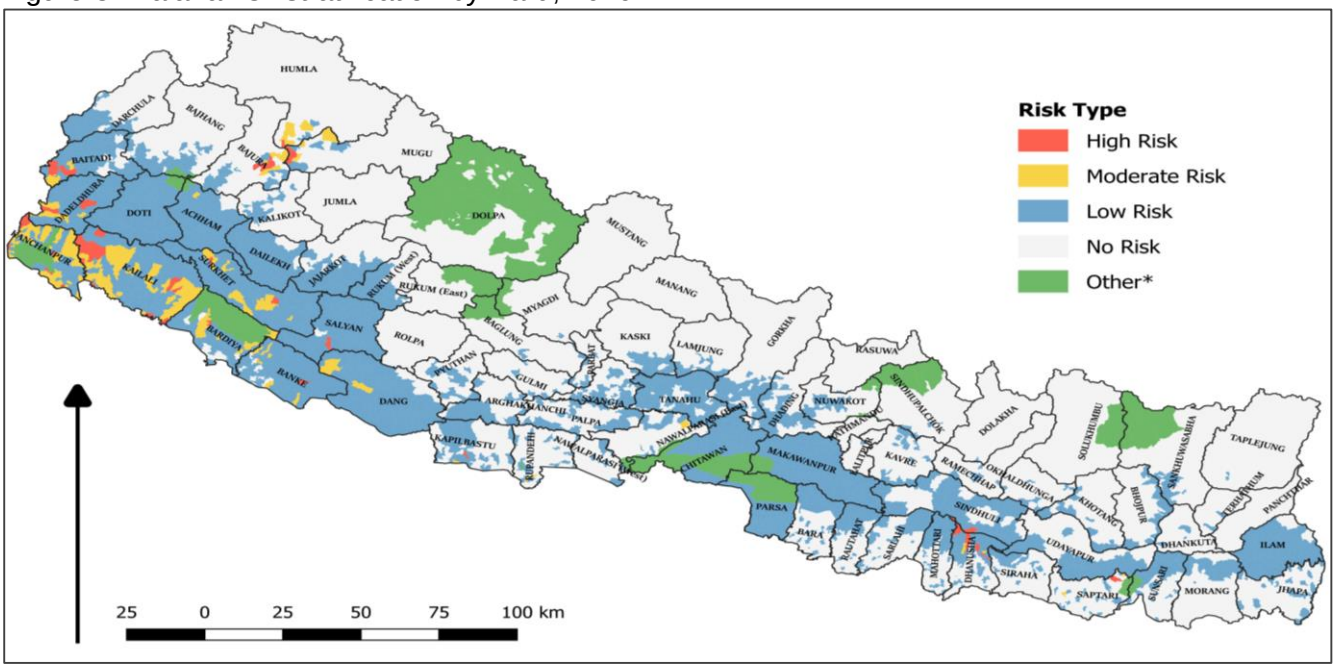
Malaria risk profile: Malaria is a focal disease and therefore, there is a critical need for targeted interventions to ensure no one is left behind especially the hard to reach, poor and marginalized communities, mobile and migrant populations. Nepal has been conducting malaria micro-stratification, which has shown progressive shrinking of the malaria map. This adds to the optimism towards achieving malaria elimination by 2025. Annual update of malaria risk stratification is tailored to suit the changing epidemiology of malaria in the country by ensuring appropriate weightage is allotted to key determinants of malaria transmission (as recommended by external malaria program review held in 2017). It facilitated narrowing down the areas for targeting interventions through the utilization of minimal available resources. Shifting from previous mode, the 2018 and 2019 micro-stratification estimated malaria risk at a community level, the wards, within relatively high levels of administrative units like Municipalities, which have provided spatio-temporal distribution of malaria informing and facilitating targeted community level interventions. The 2019 micro-stratification recorded that there were 47 high risk and 151 moderate risk wards scattered in 20 districts in six out of seven provinces (except Province 1), indicating malaria transmission was focal within the districts and provinces. Malaria transmission is mostly concentrated in the Sudurpashchim and Karnali Provinces accounting for ~80% of the high risk burden and around 73% of the moderate risk burden. Based on this micro-stratification, malaria risk maps are prepared.

The risk areas are mainly the foothills with river belts, forest fringe areas in terai, hill river valleys, and inner-terai areas that mostly run the length of Nepal's international border with India on the southern side. The low risk areas usually lie in plain cultivated areas of outer terai and river valleys in mountains. In

recent years, malaria infection has been detected in upper hilly river valleys, which have been traditionally classified as 'no risk'.[6]

Malaria risk maps based on the micro-stratification 2019 provides an overview of risk areas to prioritize on intervention activities (Figure - 3). In 2019, out of 6,743 wards in the country, a total of 47 wards (0.7%) were categorized as high risk, 151 wards (2.2%) were categorized as moderate risk (Table-3), and rest of the 2,488 wards were categorized as low risk (37% of total wards) and 4,057 wards were categorized as 'no risk' (60% of total wards). 42% of the total population was reported to be living in areas at risk (high, moderate and low) of malaria in 2019. As the country moves towards elimination, micro-stratification is updated every year to inform effective and efficient interventions.

Figure-3: Malaria risk stratification by ward, 2019



Source: EDCD, MoHP, GoN

Table-3: High and moderate risk wards in provinces and districts, 2019

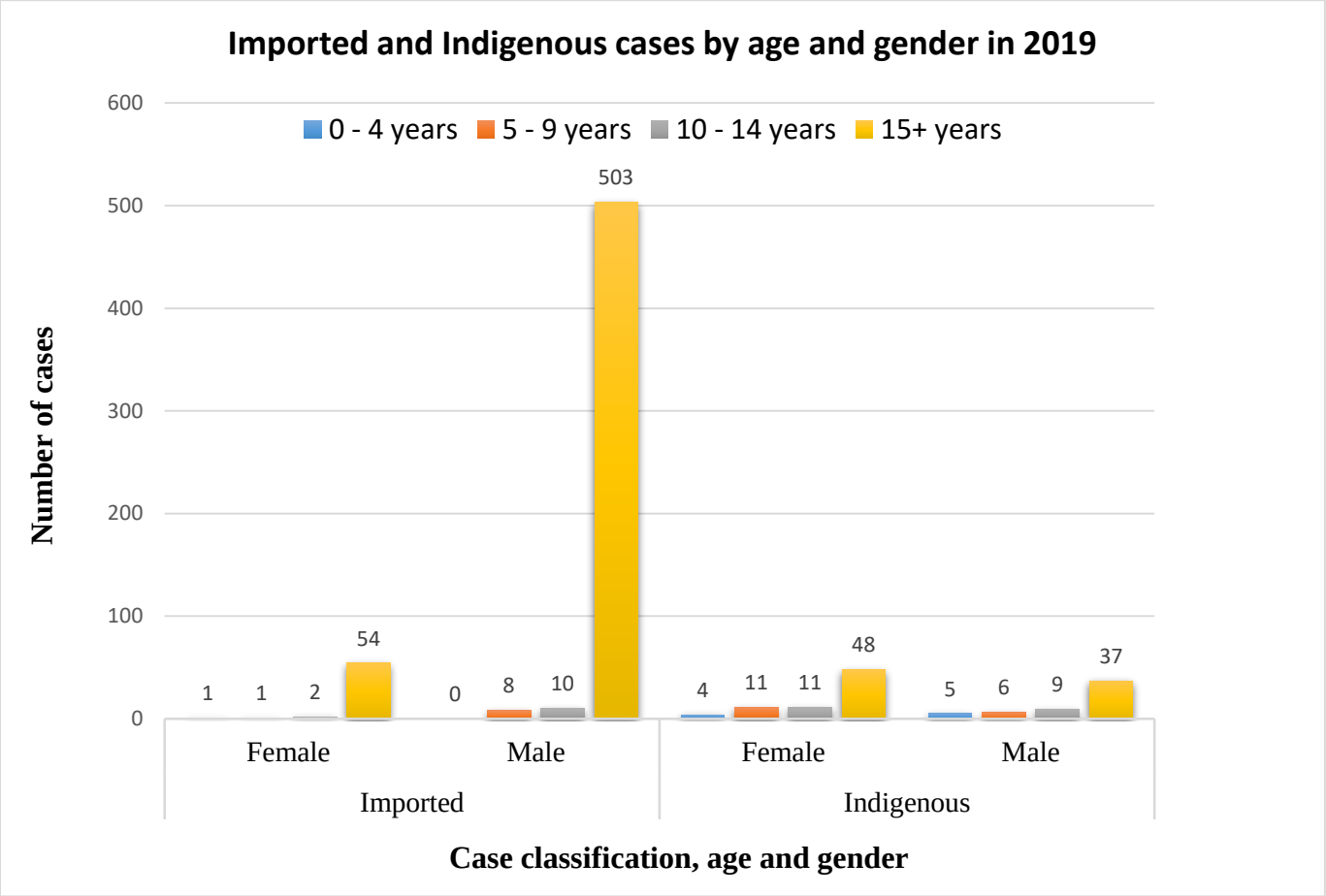
Province	District	Risk Type		Total
		High	Moderate	
Province 2	Bara	0	1	1
	Dhanusa	5	3	8
	Saptari	1	2	3
Bagmati	Sindhuli	1	0	1
Gandaki	Nawalpur	0	1	1
Province 5	Banke	1	6	7
	Bardiya	1	9	10
	Dang	0	4	4
	Kapilbastu	1	1	2
	Rupandehi	0	2	2
Karnali	Humla	2	3	5
	Mugu	2	3	5
	Salyan	1	0	1
	Surkhet	2	12	14
Sudhurpachim	Accham	0	1	1
	Baitadi	7	5	12
	Bajura	4	5	9
	Dadeldhura	3	4	7
	Kailali	11	50	61
	Kanchanpur	5	39	44
Total		47	151	198

[6] For operational definitions of risk, kindly refer to malaria micro-stratification 2018, EDCD, MoHP, GoN.

Source: EDCD, MoHP, GoN

Age and gender distribution: An analysis of relative incidence in 2019 revealed that malaria cases are reported in all age groups, but majority of cases are adult males. Over 82% of cases are recorded in the age group of 15 years and above. The incidence in men (68%) is higher than in women (32%). Occupational exposure amongst adult men within the country, as well as emigrants to India (and few other countries) for better economic opportunities constitutes the major group at risk.

Figure-4: Indigenous and imported cases by age and gender, 2019



Source: EDCD, MoHP, GoN

Seasonality: Malaria cases occur throughout the year. Reported incidence is the lowest in December-February, rises markedly following the arrival of the monsoon in May and most cases are reported between June and September.

Malaria vectors: 44 Anopheles mosquito species are recorded in Nepal yet only four are considered as major malaria vectors in Nepal. *An. fluviatilis* is the primary vector. *An. annularis* and *An. maculatus complex* are main secondary vector followed by *An. minimus*. Recent insecticide susceptibility tests using the WHO test procedures showed that all anopheline were susceptible to deltamethrin, permethrin, alpha-cypermethrin and lambda- cyhalothrin.

[Kindly also refer to the updated essential data table for information on epidemiological context and other relevant disease-specific information].

Nepal National Health Policy (2014) and Health Sector Strategy (NHSS) 2016/17-2020/21: The National Health Policy 2014 and the National Health Sector Strategy 2015 - 2020 guide the overall health plans for Nepal. The policy puts Universal Health Coverage (UHC) at the center and stresses the need for quality equitable access to health care as well as has prioritized health system strengthening and health governance. Both health policy and health strategy are at the center of overall socio-economic

development and are in line with the major priorities associated with the Sustainable Development Goals (SDGs). Under the auspices of National Health Policy 2014, the NHSS is the primary instrument to guide the health sector for the next five years. The NHSS Implementation Plan (IP) and subsequent annual work plan, budget (AWPB) translate the NHSS into action. The MoHP leads the implementation, monitoring and evaluation of this strategy with participation of all the relevant stakeholders. The overall NHSS goal is to improve the health status of the population through an accountable and equitable health service delivery system. There are 10 national level outcomes indicators defined in NHSS to measure the progress towards the goal. The NHSS stands on four strategic principles: 1) Equitable access to health services; 2) Quality health services; 3) Health systems reform; and 4) Multi-sectoral approach.

National Malaria Strategic Plan (NMSP): The NMSP [2014 -2025] was developed with the vision of "a malaria-free Nepal by 2025". The NMSP has been updated in 2020 building on the experiences and lessons learned from strategy implementation, changing malaria epidemiological context, recommendations from the external mid-term programme review (2017), and in accordance to the National Health Policy (2014) and NHSS 2016/17-2020/21. This version is in line with the WHO Global Technical Strategy for Malaria (GTS) 2016-2030 (2016) and WHO Framework for malaria elimination (2017). The NMSP is also in line with the commitments made by Nepal to attain Sustainable Development Goals (SDGs) and pursue key strategic areas in 2017 Ministerial declaration on Accelerating and Sustaining Malaria Elimination in South-East Asia Region as well as APLMA Leaders' Elimination Roadmap (2017). It is envisioned that universal access to malaria interventions and strengthened surveillance would lead to zero indigenous malaria case in Nepal by the end of 2022. The focus thereafter is to sustain this status and prevent re-introduction with the aim of achieving certification of malaria elimination by the end of 2025. The updated NMSP 2014-2025 (updated version-2020) has been developed through multi-stakeholder participatory approach and with inputs from various experts. It is endorsed by the TWG and GoN and is being disseminated to all levels.

The goals and objectives of the NMSP 2014-2025 (updated version-2020) are as under:

Goal:
Reduce the indigenous cases to zero by 2022 and sustain zero malaria mortality.

Objectives:
1. Strengthen surveillance and strategic information on malaria for effective decision-making.
2. Ensure effective coverage of vector control interventions in the targeted malaria risk areas.
3. Ensure universal access to quality assured diagnosis and effective treatment for malaria.
4. Develop and sustain support from leadership and communities towards malaria elimination.
5. Strengthen programmatic technical and managerial capacities towards malaria elimination.

The updated NMSP 2014-2025 (updated version-2020) provides key policies, activities as well as estimated budget by objectives and major cost categories. The overall estimated budget of the NMSP 2014-2025 (updated version-2020) for the period of 16-Jul-19 to 15-Jul-25 is estimated to be USD 42,745,468. In addition to domestic resources, malaria elimination is currently supported by the GF. Technical support, coordination and facilitation for malaria programme are provided by the WHO. The SCI is the Principal Recipient of the GF grant and provides technical support as well as facilitates & coordinates elimination efforts.

Outline of current status of strategy implementation:
Surveillance: Surveillance is one of the core interventions. The program is implementing the 1-3-7 days case-based surveillance approach (National Malaria Surveillance Guidelines, 2019). Suspected malaria cases are tested by RDT or microscopy and if positive, each case is notified within 24 hours into a real time online Malaria Disease Information System (MDIS) through mobile SMS or a MDIS app. Case notification into MDIS triggers case investigation within 48 hours, and foci investigation and response are completed within 7 days of notification. Each malaria case with details is entered on the online MDIS, which is accessible to the local focal person and to the district, provincial and the central team. The monthly aggregate data are reported through DHIS 2 based HMIS (DHIS 2-HMIS). Adequate and timely supplies of quality assured RDTs and microscopy facilities at all risk strata are attempted although needs to be optimal yet. The annual blood examination rate (ABER) is currently low and planned to be increased to test all suspected cases. Malaria cases are also reported in the early warning and reporting

system (EWARS), which is a hospital-based sentinel site reporting system on priority vector borne diseases. EWARS prepares weekly reports of number of cases and deaths (including 'zero' reports) from 118 (82 Government and 36 Private hospitals) sentinel hospitals. Furthermore, entomological surveillance entailing information on local vectors, vector habits, vector densities, and sensitivity to the insecticides is also carried out. However, Nepal, like many other countries, is challenged by a scarcity of trained staff that can perform entomological surveillance. The entomology unit at the EDCD, Provinces, and the VBDRTC are tasked with the responsibility of: building capacity and providing strategic information on vectors, insecticide susceptibility status and basic entomological indicators at the lowest level; monitoring and updating the vector control strategy to maximize efficiencies with a focus on malaria elimination; and conduct longitudinal vector surveillance and updated research on insecticide resistance. Furthermore, in view of huge migrant population, and large number of imported cases contributing to the total malaria cases, health desks at points of entry (PoE) for screening of the migrants is envisaged, although not yet implemented due to inadequate human resources, budget and infrastructure.

Vector control: Two main interventions for vector control in Nepal aimed at preventing transmission are the use of LLINs and the spraying of eligible structures with insecticides. These are implemented within the framework of Integrated Vector Management (IVM). A National Guideline on Integrated Vector Management is launched in 2020. Mass distribution of LLINs is undertaken in high and moderate risk areas and people living in active foci in regular intervals to ensure universal coverage. Continuous distribution of LLINs to pregnant women living in high and moderate risk areas through ANC and mobile and migrant population. Indoor residual spraying (IRS) is being done twice a year in selected districts to control Kala-azar and Malaria as there is significant overlap between malaria and kala-azar endemic districts. Focal spraying are done in active foci (when needed) and to prevent malaria outbreaks. Larval source management (LSM) by environmental manipulation and management as a supplementary measure is also practiced as feasible and needed.

Early diagnosis and prompt treatment (EDPT): Malaria diagnosis and treatment services free of charge are provided in public sector health facilities. Recently, malaria services in terms of case detection and referral have been initiated in the community in very few areas. Supply of diagnostic products, drugs, and other health commodities for malaria are managed by the EDCD. Microscopy is available at district and up to PHCC, and in some health posts mostly in high and moderate malaria risk areas. Combination RDTs, which can detect *P. vivax* and *P. f*alciparum are used in community and health facilities where microscopy is not available as well as in emergency or during off-hours in facilities with microscopy facility. Treatment is done according to the national malaria treatment protocol (NMTP) 2019. Limited supply of G6PD RDTs is also available in selected high prevalence areas to test *P. vivax* malaria cases prior to initiating primaquine treatment. Reporting of presumed (clinical) cases[7] has drastically reduced in recent years with increasing dissemination, orientation, and adoption of NMTP followed by augmented supervision and monitoring. In 2019, only 726 presumed malaria cases were reported relative to 101,511 cases in 2010 (more than 99% decline). The aim is to ensure 100% cases to be confirmed by either RDT or microscopy by 2022. Furthermore, Nepal is attempting to ensure testing of all suspected cases followed by treatment according to the NMTP.

Advocacy and behavior change communication (BCC): In coordination with NHEICC, communication tools, materials are developed for advocacy and BCC for various target audiences including mobile and migrant populations. Besides in-country stakeholder advocacy, coordination and collaboration with the GF and the WHO, engagement with international agencies/networks such as the USAID, JHPEIGO, PMI, DFID, GIZ, UNFPA, UNICEF, RBM Partnership, APLMA, APMEN, SAARC, etc. is also attempted from time to time, although it needs to be enhanced. Further, a high level meeting has been held between India, Nepal, Bangladesh and Bhutan to discuss regional collaboration for cross border initiatives. However, cross border collaboration still needs strengthening to ensure access to diagnosis and effective management of migrant and mobile populations across borders and to facilitate the information sharing between the countries.

Disease-specific and the overall health systems and linkages:

[7] Suspected cases despite negative test result who are treated with broad-spectrum antibiotics and antimalarials, usually chloroquine, especially in private sector.

Overall health system: The Constitution of Nepal (2015) has declared the country a Federal Democratic Republic with seven provinces. Subsequent to formation of a new government in 2018, the federalization process is being implemented. Nepal now has three levels of government: federal, provincial and municipal (local). The seven provinces are subdivided into 753 local administrative units known as municipalities or '*Palikas*'. These in turn, are further divided into 6 metropolises, 11 sub-metropolises and 276 municipalities, 460 village municipalities. The municipalities are divided into wards, the smallest administrative unit at community level. For administrative purposes, the country is divided into 77 districts: 16 districts in the north constitute the mountain region, 40 districts in the middle constitute the hill and 21 districts in the south fall in the terai region. Each district is headed by a Chief District Officer (CDO) who is responsible for maintenance of law and order in the district and to coordinate the development works conducted by different ministries and local agencies at the district level.

Delivery of health services is the sole responsibility of provincial and local governments, while the federal government at the centre - Ministry of Health and Population (MoHP) focuses on policy, strategy, regulations, standards development and M&E. The Ministry of Social Development (MoSD) has been created to oversee the newly created Provincial Health Directorates. Health Coordination Units located within municipalities oversee the health facilities.

Nepal has a comprehensive health infrastructure stretching to the community level. Overall, the health system comprises community services, peripheral service delivery points (health posts, urban health centers, community health units and primary health care centers), district hospitals and higher centers. There are also private hospitals, medical college teaching hospitals, clinics and pharmacies providing health services in the country.

The four-tier public sector health service delivery system follows a decentralized administrative approach in keeping with the thrust of federalization to promote local health governance:

- Community health services: Health services at the community level are being provided by the Female Community Health Volunteers (FCHVs) at the ward level. They provide health promotion activities, general treatment for respiratory and diarrheal diseases and refer fever cases and severe patients to the health facility for further management.
- Health post: There are a total of 3,808 health posts staffed with paramedics at the ward level (at least one HP in a ward). There are also 374 urban health centers and 299 community health units in the country. These are planned to be expanded as per the new federal administrative structure.
- Primary Health Care Centre (PHCC): There are 198 PHCCs in the country. PHCCs are staffed with a medical doctor, paramedics and laboratory personnel. At the level of municipalities, sub-metropolis and metropolis areas, Urban Health Centre provide the same level of services.
- District/hospital and above: District and province hospitals are centers for specialized services in the provinces. There are other hospitals in the province and districts supported by the GoN. Higher centers include central and specialized hospitals for tertiary services. There are 125 hospitals as per the recent census.
- Private Health System: The private health service is a critical component of health service delivery in Nepal. There are 1,822 registered private health facilities.

Under the decentralized federal structure, re-designing of the health system is at a formative stage. Amongst others, it is envisaged that Community Health Units would be established at the community level to deliver basic health services, especially for hard-to-reach populations with referral linkages to higher-level facilities. The community would manage these units under the broader local governance framework and would be accountable to the higher-level facility within the ward. There would be a maximum of three community health units per ward based on the geographic accessibility and population settlement. These units would provide services through extended health workers in coordination with FCHVs in the community. Opportunities exist for collaboration with other community-based groups and institutions (e.g. mothers' groups, Ward Citizen Forums, and youth clubs) for better health outcomes.[8] Recently, Nepal is also designing a concept of CDC to integrate into the new federal health system and

[8] NHSS. 2016. MoHP, GoN.

is currently being planned by DG/DoHS for its operational strategy. Thus, federalization presents an opportunity to improve UHC.[9] Transferring knowledge and implementation capacity to the decentralized levels guarantees sustainability of gains and ensures improved quality and scale of the prevention and management of malaria nationwide.

Disease specific health system and linkages: Malaria services are an integral part of the basic health service package of the public health system and provided free of charge. The health post provides services for uncomplicated malaria and primary treatment to severe malaria patients before referring to either a PHCC or hospital. At the hospital and PHCC levels, treatment services are provided for uncomplicated and severe malaria. Recently, community-based services for malaria have been initiated (on a very minimal scale) through referral of suspected malaria cases by FCHVs (based on the clinical symptoms and a history of travel to malaria risk areas) in addition to their other responsibilities for various health programmes. However, to improve early diagnosis and prompt treatment at the community level, it is envisaged that the FCHVs would initiate testing by RDTs followed by prompt treatment by the nearest health facilities. Such services are envisaged to be rolled out in 2021 and strengthened in the coming years. The above-mentioned health facilities at ward level are expected to support the community response. [Furthermore, to complement the malaria services by FCHVs, additional community level resources is being envisaged from 2021 especially in high and moderate risk areas where further strengthening of services are deemed necessary (kindly refer to sub-sections below and section 2.2, others)]. The health services at the community, health post and the PHCC level are supervised and monitored by the local body. The provincial level provides monitoring and supervision till the district health office and overall guidance to the local body health unit. The central/federal level health system provides over-arching support, coordination, supervision and mentorship of the overall malaria programme.

Integration with Integrated Management of Neonatal and Childhood Illness (IMNCI) Programme is also being prioritized. Antenatal care services (ANC) include LLINs to pregnant women (through continuous distribution) thereby contributing to outcomes. Wherever possible, synergistic interventions with other VBD programmes are attempted (example, conducting IRS under malaria and Kala-azar programmes). In addition, integration with TB and HIV programmes are planned, as appropriate.

Institutional framework for malaria elimination:
Central level: At the central level, Epidemiology and Disease Control Division (EDCD), Department of Health Services/Ministry of Health and Population (MoHP) is fully integrated within the general primary health care system of the Government of Nepal (GoN). The EDCD is responsible for formulating program policies, strategies and planning, technical support, oversight and evaluation, training, supervision, logistics management, health education, communication, and research for communicable, non-communicable, vector borne, zoonotic diseases and mental health. Furthermore, quantification and supply of malaria commodities such as RDTs, microscopes, reagents, LLINs and anti-malarial drugs are the key responsibilities of EDCD. Drugs are procured and distributed through the system of Logistics Management Division of the Department of Health Services. The division is also responsible for the preparedness and response of disaster and other public health emergencies as the focal point for international health regulation. Under the aegis of EDCD, neglected tropical disease & vector borne disease section (NTDs & VBDs) is responsible for developing strategies, policies, guidelines, and monitoring the implementation of the vector borne diseases that includes malaria, kala-azar, dengue, lymphatic filariasis, Japanese encephalitis, and other VBDs along with the surveillance and response to water borne, air borne and zoonotic diseases and health disasters.

A technical working group (TWG) guides the program on the technical issues and policies impacting malaria elimination. The major mechanism for technical governance and oversight to guide the country and track the progress towards malaria elimination includes: 1. National malaria elimination steering committee (NMESC); Malaria technical working group (TWG); and National malaria elimination task force (NMETF).

The NPHL is responsible for laboratory policy and guideline development at the federal level; and PPHL

[9] Implementing Federalism in the Health System of Nepal: Opportunities and Challenges. Thapa, R. et al.Int J Health Policy Manag 2019, 8: 195

and VBDRTC are the reference centers for malaria and are responsible for training, quality control and supervision.

The EDCD-national malaria program has been receiving support from the Global Fund since 2004. The Global Fund supported program management unit (PMU) is set up at the EDCD for overall management of the Global Fund grants to provide technical inputs to formulate policies, strategies, program, support and facilitate implementation, and for monitoring and evaluation. The PMU consists of technical and administrative staff at the EDCD and surveillance medical officers, entomologist at the provincial level. Currently, the NGO partner – SCI is providing technical and implementation support to the EDCD (as the Principal Recipient of the GF grant).

Provincial level: At the provincial level, there are 7 provincial health directorates (PHD), one in each province, which are responsible for planning and implementing national and provincial level activities under the aegis of the MoSD. PHDs regularly review achievement in case management, issues, challenges and plan the way forward. In coordination with districts, the staff of PHD, conduct field visits to supervise and monitor the activities as well as review malaria data Provincial Logistic Management Team ensures supply chain management. During the field visits, monitoring team provides onsite coaching and feedback to health office and HF staff. The PHD with coordination from the district health office and the local body health unit provides capacity building activities, monitoring and supervision through regular visits, annual and quarterly reviews. The FCHVs are included in such activities. The PHD and the district health office staff provide technical assistance to the local level health unit, which are recently established.

District level: At the district level there is a health office that supports implementation of activities, ensures quality through technical support and facilitates supply of malaria commodities. They coordinate with the local bodies and organize review meetings periodically to track program progress besides regularly conducting field visits in malaria risk areas for supervision and monitoring, assessing stock situation of RDTs and antimalarials as well as other commodities, review the recording & reporting of malaria data.

Local level: At the local level, each rural municipality/urban municipality/sub metropolitan city and metropolitan city has a health section that is responsible for implementing health-related activities. It plans, implements, monitors and tracks all health program progress including malaria programme. It conducts field activities, vector control activities, and monitors stock situation of malaria commodities (RDTs and anti-malarial drugs, LLINs,) including recording reporting of malaria program data, and quality assurance and quality control of malaria diagnosis. Recently, referral of suspected malaria cases has just been initiated (on a very minimal scale) in a few areas at community level with support from FCHVs and community. Community based response with testing and supporting prompt and supervised treatment, reporting, IEC/BCC is planned to be scaled up with systematic involvement of FCHVs as well as introducing other community resources (cadres), who would be selected from the community (kindly refer to the sub-sections below and other sections in this Funding Request, particularly section 2.2). There are challenges at subnational level under the new system, since the roles and responsibilities are yet to be clearly defined and capacity for program implementation by local body, monitoring by provincial level requires strengthening.

Relevant key and/or vulnerable populations:
Key and vulnerable populations are groups who face an increased burden and/or vulnerability due to a combination of socio-economic, biological, geo-ecological and structural factors combined with lower access to services. In Nepal, such populations are given priority for targeting interventions and remain central in the fight against malaria.

- Migrant and mobile populations
- Women and children
- Dalits/ethnic minorities and various underprivileged groups
- Population facing exposure due to occupation (forest workers, wood-cutters, miners, charcoal makers, livestock farmers, brick factory workers)
- Peoples living in groups in risk areas/situation such as, internally displaced people living in camps due to natural disaster and other emergencies; people in old age homes and rehabilitation centres;

prisoners
- Security forces deployed at risk areas

The age- and gender-based analysis of relative incidence in 2019 presented earlier indicated higher incidence of malaria in adults than children and amongst men than amongst women. Adult males are vulnerable due to occupation and behavior that put them at risk of being bitten by malaria vectors. They also constitute the largest segment of migrants traveling to India as well as those moving within Nepal for occupational pursuits and remain vulnerable. Most migrants have poor access to health care services in area of work within and outside the country (including access to prevention, diagnostic testing and treatment). With >80% of malaria cases imported mostly by migrants returning from India, often to receptive areas, the risk of reintroduction in erstwhile malaria-free districts remains a huge threat. As discussed above, targeted interventions for migrants are utmost priority and key to achieving and sustaining elimination. Many migrants especially in India form communities and are well networked. Subsequent to comprehensive analysis, targeting interventions (preventive and case management services, appropriate BCC) involving such community networks in coordination and collaboration with Indian counterparts and the WHO (in line with the WHO operational framework for cross-border collaboration, 2017)[10] ; besides screening at identified border areas integrated under existing TB, HIV services are being considered. Further, the security forces are posted within and outside the country and remain vulnerable due to their nature of job and thus exposure. In addition, the underprivileged, marginalized populations are also vulnerable to exposure. It is worthwhile to note that pregnant women and children <5 years, who are biologically at higher risk are already prioritized for interventions.

Human rights, gender and age-related barriers and inequities in access to services:
The country is pursuing the 2030 Agenda for Sustainable Development with strong national commitment as a means for transformative change in the country through its integrated approach and the principle of 'leaving no one behind'. The fundamental equity-based principle of the SDGs has a strong resonance in Nepal, as the country has adopted transformative constitution with inclusive governance and strong commitment to justice and the enjoyment of fundamental rights by all.[11] In accordance with such goals and mission, tackling human rights and gender and age-related barriers and inequities are priority towards sustainable progress in Nepal.

The National Health Policy (2014), the NHSS vision emphasizes that all Nepali citizens have productive and quality lives with highest level of physical, mental, social and emotional health. The mission is to ensure citizens' fundamental rights to stay healthy by utilizing available resources optimally and through strategic cooperation between service providers, service users and other stakeholders. The overall goal is to achieve improved health status of all people through accountable and equitable health service delivery system. Since the country is committed to universal health coverage, the barriers and inequities are increasingly being addressed. Basic health package are provided free of charge to all users at primary health-care centers, health posts that are and can be accessed by all.

Nepal's Human Development Index value for 2018 is 0.579, which put the country in the medium human development category positioning it at 147 out of 189 countries and territories (Human Development Report, UNDP, 2019). There are marginalized populations who often are socio-economically disadvantaged, including migrants, refugees, indigenous people, prisoners, people in hard to reach areas facing barriers to access health services, while others in occupation with high exposure (forest workers, wood-cutters, miners, charcoal makers, livestock farmers) as well as women and children are particularly vulnerable to malaria as they face relatively high risk of infection due to barriers such as poverty, social exclusion, gender norms, cultural and traditional norms, financial barriers, and infrastructure constraints (example, distance to health facilities, facility opening hours, and variable road/transport conditions). Such barriers are gender specific, with women and girls being further marginalized. For instance, women and girls face risks due to gender norms linked to day-to-day activities (household chores - fetching water or gathering fuel, or agricultural work) that expose them to mosquitoes without protection. The same is also true for men when they work in forests, fields, mines or other high-exposure locations as well as stay

[10] An urgent front: Cross-border collaboration to secure a malaria-free South-East Asia Region: Development of an Operational Framework. World Health Organization. 2017.
[11] National Review of Sustainable Development Goals. National Planning Commission. Government of Nepal. 2020.

in agricultural fields at peak biting times. In addition, populations moving from low to high transmission settings (example from low/no risk areas of Nepal to endemic areas of India/other countries) are also more vulnerable due to lack of immunity.

Furthermore, in spite of the improving scenario, women and girls particularly still face impediments due to geography, economic and socio-cultural, institutional barriers that affect their health and wellbeing. They are also yet to have optimal access to malaria services. The UNDP Gender Inequality Index in 2020 for Nepal was 115 of 160.[12] Usually women (and children) in Nepal do not go to health centre without the permission of their household head, who is usually male. Hence, it is important to ensure these women are empowered as well as men are oriented to adopt early health seeking behaviour. With scaling up of community based testing by FCHVs (and other community resource) in coming years followed by prompt treatment by the nearest health facility, early diagnosis and prompt treatment would be optimized overcoming barriers/inequities. Delayed health seeking behaviour may again be worse in case of the marginalized groups and *Dalits*, who face discrimination and barriers including economic barrier. These underprivileged groups and hard to reach population are expected to seek services from community cadres (viz. FCHVs) with support from the health facilities [kindly see below 'community responses and engagement' and section 2.2].

Attempts are made to understand and mitigate barriers to services and overall inequities in access to malaria services are gradually diminishing. Efforts are being made to address communities, rights and gender (CRG) barriers and inequities while strategizing and implementing interventions. Targeting interventions for key and vulnerable populations are integral to the programme. The interests of mobile and migrant populations (and their networks/communities) are also envisaged through strengthening of case detection and information dissemination and involving them in local structures, platforms and processes (community engagement). Capacity building exercises of health care providers as well as sensitization and Behaviour Change Communication and community engagement efforts; apart from programme reviews inherently keep such focus. Malaria amongst migrants (imported malaria), who often belong to poor and marginalized sections are already in-built within programme and being continually improved. Further synergies for integrating/rolling out services together with TB & HIV programmes, IMNCI and relevant others are also being explored. It is important to mention that the Nepal-CCM has recently been part of a project that intended to strengthen the community, gender, and rights components of the GF grants contributing to strong, resilient and sustainable systems for health that respond effectively to the needs of people living with and affected by HIV, TB, and Malaria and other key and vulnerable communities.[13]

For some time, gender-related indicators and gender-responsive M&E are built into the strategies. Age and gender-disaggregated quantitative data are being increasingly used to inform programme design, prioritization and implementation of interventions as well as to estimate and allocate investments, which are critical to address barriers and inequities. Besides, the ANMs at peripheral health facilities and FCHVs in community, who are women and are providing services at community level, are inherently gender-inclusive approach (even while introducing additional community cadre, possible induction of women would be considered). It is important to ensure participation of women; and antenatal care services are one of the best ways to reach all women with information on prevention measures including training on early diagnosis and prompt treatment. Already, LLINs are provisioned and continuously distributed to pregnant women visiting ANC clinics. An example of gender barrier is seen in the western parts/hilly region of the country, where according to traditional practice in some communities, menstruating women and girls are required to remain isolated from their family in rudimentary huts, a practice known as *'Chhaupadi'*. Additionally, women who have just given birth are also required to stay in isolation with their children for up to two weeks. During these times, girls/women are exposed to multiple health and safety risks including malaria. Even though legislation criminalising *'Chhaupadi'* has been introduced with penalties including imprisonment in 2017-18, yet enforcement is problematic.[14]

As most malaria cases occur amongst these key and vulnerable populations, they remain central in the

[12] Human Development Report 2019. Gender Inequality Index. http://hdr.undp.org/en/composite/GII

[13] CCM (R)evolutions. Lessons and inspirations from four countries. Nepal, Pakistan, Papua New Guinea, Sri Lanka: Final Report. 2020.

[14] Amatya et al. Practice and lived experience of menstrual exiles *(Chhaupadi)* 2018.

fight against malaria. In order to comprehensively assess and improve malaria responses, application of the 'Malaria Matchbox'[15] or in-depth analysis relating to CRG would be discussed with the GF and RBM Partnership towards understanding social, economic, cultural and gender-related barriers shaping malaria and malaria services in Nepal in order to improve access and use through a programmatic implementation that ensures inclusion, equity, equality, and gender sensitive approaches.

Community responses and engagement:
Community based and community led responses are important elements of the right to health in Nepal. Community is an integral part in the process of designing policies, strategies and approaches and their implementation. Involvement of FCHVs for supporting healthcare services is one of the major community-based and community-driven systems in health sector as mentioned earlier, which has been well recognized for their vital role as a link between the community and health system and contributes to resilient and sustainable systems for health.

However, communities are yet to be sufficiently involved in malaria services even though FCHVs have initiated supporting referral of suspected malaria cases (in few areas). Also, communities are yet to be optimally mobilised in malaria elimination activities. Much more needs to be done to promote community involvement, including in the detection of all suspected cases and reporting. The updated NMSP 2014-2025 (2020 version) focus is inclusive, equitable and community-centric and has been developed in consultation with all stakeholders including communities and civil society. It is deemed crucial that communities play meaningful role in determining the elements that could be the most effective and sustainable malaria responses tailored to their context. In this background, strengthening community response and enhanced community mobilization form key priorities.

This Funding Request (like the previous ones) has also followed diligent community consultations where the community voiced challenges and needs related to malaria and shared their priorities (as part of the country dialogue process - kindly refer to section 2.1). Drawing from the consultations as well as various reviews, augmentation of access to and coverage by timely community level testing and prompt treatment (by the nearest health facility), treatment advocacy, adoption of prevention interventions, intensified BCC and community mobilization tailored to the context especially involving FCHVs and any other potential community resource would form core community responses. Pursuant to these actions, socialization of malaria would also be encouraged by involving CSOs/NGOs and community networks, leaders/champions/advocates, community based institutions such as local schools to support ongoing efforts by local/provincial/central levels (in programme planning, implementation, and reviews and assessments), and who would in turn, would support in reaching out to and empowering/networking the communities at risk; in coordination with and support from ward committees/relevant others towards achieving and sustaining elimination. Fostering empowered community support for strategic planning, implementation, M&E, building/nurturing linkages and coordination would feed into the national malaria elimination agenda as well as contribute to resilient and sustainable systems for health through community systems strengthening.

Role of the private sector:
The private sector is considered an important complementary partner for malaria case management and surveillance and response. The NHSS also includes private sector as a complementary service provider. Over the years, the private sector hospitals are increasing at a rapid pace. This, alongside the flourishing of private clinics, polyclinics and pharmacy-based practitioners clearly point towards the considerable size of the private healthcare services in Nepal. Currently, private sector in Nepal comprises a large array of providers, viz. private practitioners, clinics and polyclinics, diagnostic centres and private hospitals, NGO health care facilities and pharmacies. Private sector providers are at times relatively more convenient to be accessed in view of their extensive reach in areas with limited access to the public sector health facilities and/or border areas and amongst mobile and migrant populations and hard-to-reach populations. Even though private sector health facilities play important role, appropriate engagement has remained at a nascent stage.

Subsequent to external mid-term programme review and other internal assessments, a mapping of the

[15] Malaria matchbox tool. https://endmalaria.org/sites/default/files/Malaria%20Matchbox%20Tool_en_web.pdf

private sector and their practices was conducted in high and moderate risk districts in 2018 to better understand current care practices for malaria that would inform development of strategy. The exercise included: assessment of knowledge, attitude, practices in accordance with the national guidelines and explore feasibility of effective engagement with private sector. It was found that ~60% private sector provider examined patients suspected of malaria, 74% provided diagnostic testing services, but only 45% treated the patients. Although malaria diagnosis and treatment are available free of cost at the public health facilities, the aforementioned data shows that significant numbers could still seek care in the private sector. It was concluded that engagement may include encouragement for rational diagnosis & treatment according to national guidelines followed by reporting, training, regulations, social franchising to improve case management and surveillance. Based on this report[16] and further in-country deliberations at various platforms, private sector engagement (PSE) guidelines have been finalised in 2019. However, its dissemination has been delayed due to COVID-19. In this background, operationalizing PSE has started with orientation, reporting from identified private sector providers; and these would be expanded throughout the country. The guidelines would ensure that malaria must be confirmed prior to treatment with anti-malarial drugs (thereby tackling issues relating to treatment of presumed cases) as well as mandatory notification of confirmed malaria cases. The GoN has already discussed to add malaria in the list of notifiable diseases and presently ratification is pending.

1.3 Lessons Learned from Global Fund and Other Partner Investments

Describe how Global Fund and domestic investments, as well as those of other partners, supported national health targets during the current allocation period. Include the main **lessons learned** that are relevant to this funding request (for example, innovations or bottlenecks in service delivery).

The malaria elimination programme is supported mainly by the Government of Nepal (GoN). The GF additional support is vital to the efforts supported by the GoN resources. Technical support is provided by the WHO. Previously, in 2016, the Maternal and Child Survival Program (MCSP), the United States Agency for International Development program led by JHPIEGO (an international non-profit health organization affiliated with John Hopkins University) was launched. The MCSP worked closely with EDCD, MoHP until 2019 to strengthen malaria technical and management capacity and procurement and logistics supply chain management capacity. This grant has since concluded.

The GoN has provided/is expected to provide 34% of the funding for the country's malaria response while the GF grant is 22% during the 2018-2021 period. The funding gap in the current funding cycle is estimated as 43% (USD 10,757,269 million). The annual budget allocations also show that the NSP funding needs have not been met in entirety in each year. In 2018-2019, the GoN provided nearly USD 2.7 million (over 25%) of the total budget needed for malaria response whilst the GF contributed over USD 1.09 million (10%).

Lessons learned: The national malaria elimination programme has achieved significant progress with the number of malaria cases decreasing and the number of deaths due to malaria is zero in recent years. Nepal is aiming to reach elimination with the support by the GF in addition to domestic investments as well as technical support by the WHO and other partners/stakeholders.

The results in 2019 highlight that achievements related to impact and outcome level targets are modest; although performance related to other indicators has been improving. Those who are confirmed of having malaria are receiving treatment according to the NMTP (achieving 100% of targets). Malaria diagnostic tests by RDTs or microscopy for suspected cases are being emphasized and done. Performance relating to the diagnosis of malaria in all sectors (public sector health facilities, community, and private sector) has improved in the last reporting period (Jul-Dec 2019) achieving 31-63% of targets vis-à-vis achievement of 11-26% of targets in the previous period (Jan-Jun 2019) and further improvements are expected. Attempt is ongoing to augment the performance even though decentralized systems following federalization remain challenging, amongst others. Case based surveillance is more or less working where malaria cases are being identified and confirmed, for example, 97% of the target of malaria cases

[16] Mapping the landscape of current practices in the private sector in 27 malaria endemic districts of Nepal. Mitra Samaj. 2018

were investigated and classified, and 95% of malaria foci were fully investigated and classified, the performance is expected to be 100% (which has noted in the previous reporting period). Furthermore, continuous distribution of bed nets to targeted risk groups could achieve 87% of the target due to challenges with distribution through the newly decentralized structure. Nevertheless, according to the household survey on LLIN availability and its use (2019), overall 79.6 percent of the people slept under LLINs while 85.7 percent of the under five years children slept under LLINs previous night. Significant majority (91.3%) of population has access to an LLIN within their households and 90.4% of households have at least one LLIN for every two people. Significant improvement in grant management is also noteworthy.

In view of federalization, programme governance, oversight and coordination, strengthening of capacities, procurement and supply chain management, M&E including timely and quality data/information and their analysis/synthesis and use at local level for strategic planning and implementation at province, and local levels need to be strengthened. There is also a need to provide clarity in articulating roles and responsibilities at different levels vis-à-vis elimination target. Nevertheless, federalization presents great possibility of ownership of elimination agenda at local levels. The local level as independent governance structure would continue to provide services at the community, HP, PHCC. Technical support is provided by the district health office, PHD and the central team. Advocacy, training on treatment, surveillance, recording and reporting, quality assurance of diagnostics, micro-planning have been included at the lowest level of health system.

Diligent advocacy drives are needed to keep elimination as priority agenda at every opportunity especially with declining burden and no mortality, malaria may possibly be downgraded on the urgency scale. Such weakening of priority would pose immense hurdles in treading the 'last mile' in the pathway to elimination. Eliminating malaria in Nepal would additionally require a great deal of regional cooperation, cross-border initiatives including actions along international border within national boundaries and collaboration across border, international alliances apart from much needed sufficient and sustained funding.

High malariogenic potential (receptivity and vulnerability), high rate of malaria importation, pose risk of maintaining the local transmission. Improved investigation of every new case and focus, classification, and timely reporting for response would be the key to preventing further transmission.

The external mid-term programme review in 2017 recommended strengthening and optimizing case management, accelerating case-based surveillance and response, strengthening and optimizing integrated vector management and enhancing entomological surveillance, strengthening epidemic preparedness and response (EPR), improving management and planning, and creating an enabling environment. Actions on many of these recommendations have already been taken by the national programme. The NMSP has been updated with focus on elimination. Several guidelines and plans have been revised drawing from evidence, and stakeholder engagement have been carried out. Micro-stratification is done and consistently updated based on epidemiological data, including recent data on receptivity and vulnerability to inform targeted interventions. Strengthening of strategy implementation based on micro-stratification and other context-specific information, targeting populations at risk and especially key and vulnerable sections are well-prioritized. Surveillance and response is improving. M&E is being progressively strengthened. Capacity strengthening, community awareness and mobilization, creation of enabling environment are integral components of ongoing efforts.

Furthermore, due to COVID-19 pandemic, Nepal went into lockdown from March 2020 following the detection of cases in travelers. The 4-month lockdown was lifted in July 2020 with gradual lifting of land travel although air travel restrictions are in place. Within a short period however, cases started to increase, and most parts of the country were again under lockdown. Nepal has surpassed 31,000 cases and around 150 deaths until August 2020 (MoHP daily briefing reports). In this crisis scenario, health services have been affected due to restrictions on movement; health facilities' prime focus on dealing with/readiness for COVID-19; most patient not seeking care in health facilities due to possibility of equating any fever with COVID -19 and consequent requirement of mandatory quarantine; limitations in working environment for health workers since many lack knowledge and skills, confidence, adequate protection, and motivation. There were disruptions in the supply chain for all commodities, including food and medical supplies. Private facilities were also closed during the period except pharmacies. Such a

situation contributed to limited utilization of health facilities, use of either improper treatment from medical shops or other ancillary treatment. Furthermore, a large number of people returned from malaria endemic areas during the period. It is estimated that more than 200,000 people entered province 7, 6, 2, and 5 from neighbouring country. Returnees were to undergo mandatory quarantine. Malaria testing in quarantine facilities was conducted as per interim guidelines.[17] However, many people went straight to their homes. Mitigation measures to counter adverse impact on service delivery were taken. Although interim guidelines were recommended and intensive efforts were made to ensure adequate supply of malaria commodities, yet malaria services (along with many others) faced challenges and disruptions. Only limited surveillance was possible during the period and testing coverage has been low with only 17% and 9% tests conducted in public and private sectors, respectively, during January-June 2020. A "Malaria Catch Up" plan[18] has been rolled out for optimal case detection in the community drawing from the in-country, WHO and the GF guidance. It is envisaged that the plan might address issues related to case detection in the community as well as increase access to treatment, improve early and appropriate health seeking behavior; besides provide motivation to health workers to test febrile cases for malaria. Strengthening of 20 points of entry (PoE) is also envisaged with appropriate health desks (with many of those along the international border with India). This would offer opportunities to the malaria programme (and other disease programmes) for integrated approaches in screening migrants and targeted message dissemination. COVID-19 pandemic has provided lessons and insights regarding difficulties and possible modalities for tackling such a crisis including but not limited to, the critical need for robust surveillance and response, overall health system strengthening, community awareness and responsive behaviour.

Challenges and bottlenecks: In spite of recent success, there are several challenges, needs and gaps in the pathway to realize the desired elimination goals envisioned in the NMSP 2014-2025 (updated version-2020), which are being addressed. The challenges requiring improvement include: malaria transmission and outbreaks in areas categorized previously as "no risk" (malaria-free areas); relative increase in proportion of imported malaria cases (cross-border malaria) and lack of mapping/analysis of migrants and appropriate interventions including coordinating with other disease programmes, stakeholders; inadequate case-based surveillance and response with 1-3-7 approach; low testing of suspected malaria cases in public sector health facilities, community, and private sector; inadequate follow up of radical treatment of vivax cases; inadequate engagement with private sector (that remains largely unregulated, and needs coordination and prioritization); issues related to timely procurement of quality-assured health products [Long Lasting Insecticidal Nets (LLINs) for mass and continuous distribution, RDTs, microscopy] and antimalarials; limited QA/QC processes; and inadequate resources to support the activities. Communities are also not sufficiently involved and mobilised in malaria responses at present and much more needs to be done to promote active community involvement and ownership in the pathway to malaria elimination as well as to address human rights and gender related barriers and inequities. Reporting of presumptive cases (suspected cases who are treated without confirming malaria especially in the private sector) although has declined drastically, needs to discontinue. In addition, strengthening of capacities in public sector, community, private sector to detect, treat, and follow up all cases is needed besides ensuring positioning, mentoring and retention of qualified human resources at provincial and local levels. Collaborations with multi-sector stakeholders including corporate sector have remained either variable or at a nascent stage.

[17] Interim guidance on malaria services during COVID-19 pandemic. EDCD, MoHP. GoN.
[18] Malaria catch up plan. EDCD, MoHP. GoN.

Section 2: Funding Request and Prioritization

To respond to the questions below, refer to the *Instructions,* as well as national strategy documents, **Programmatic Gap Table(s), Funding Landscape Table(s), Performance Framework, Budget and Essential Data Table(s)**.

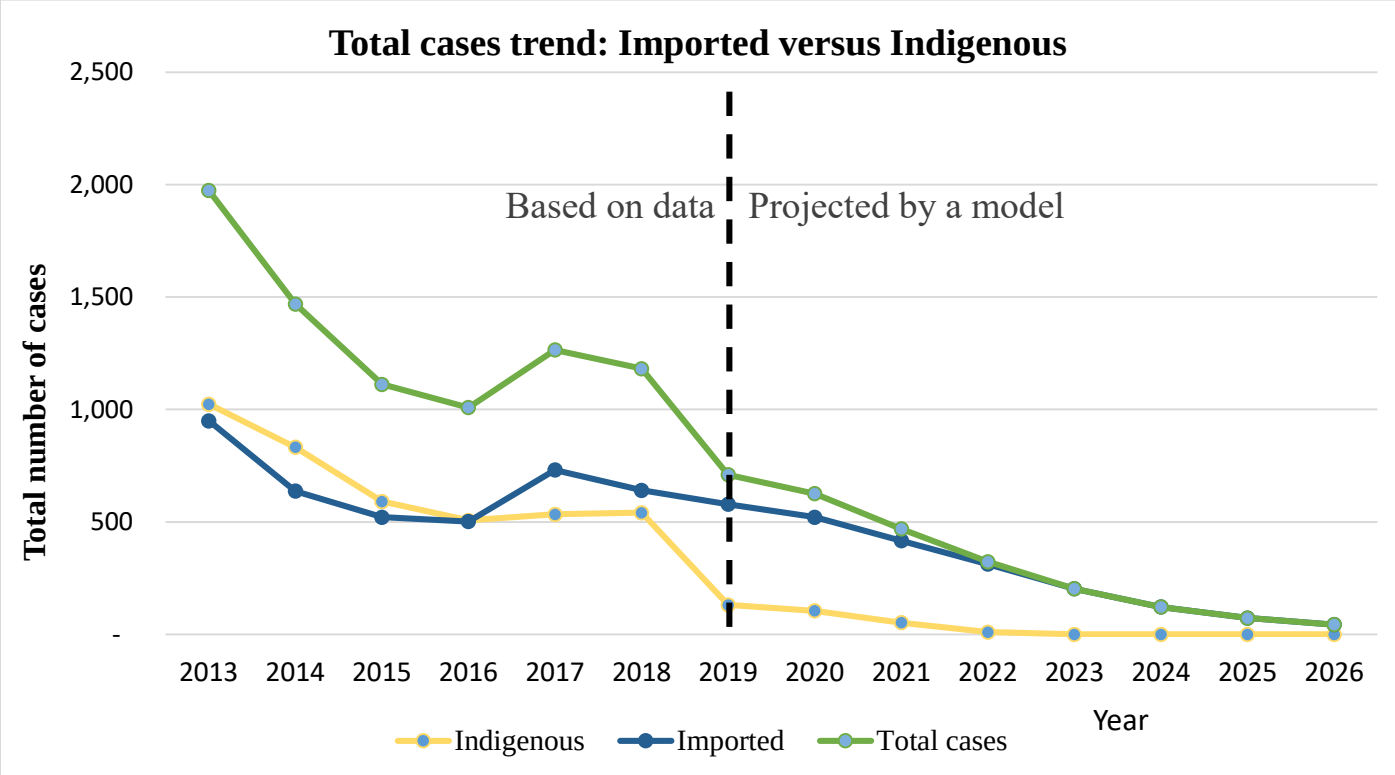
2.1 Overview of Funding Priorities

Summarize the **approach used for prioritization** of modules and interventions (or in the case of Payment for Results, the performance indicators and/or milestones). The response should include:

- How these prioritized modules ensure the highest possible impact with a view to ending the epidemics of HIV, TB and malaria; and
- How challenges, barriers and inequities, including those related to human rights and gender, are being addressed through the modules prioritized within this funding request.

The Funding Request (modules and interventions) is completely aligned with the recently updated version of the NMSP 2014-2025 (in 2020)[19] and country context. It is envisaged that over the next 3/4 years (2021-2024), maximum priority would be to consolidate the gains, interrupt local transmission and reach zero indigenous cases by 2022, progressively reduce imported malaria and ensure zero deaths due to malaria (Figure-5, 6, 7).

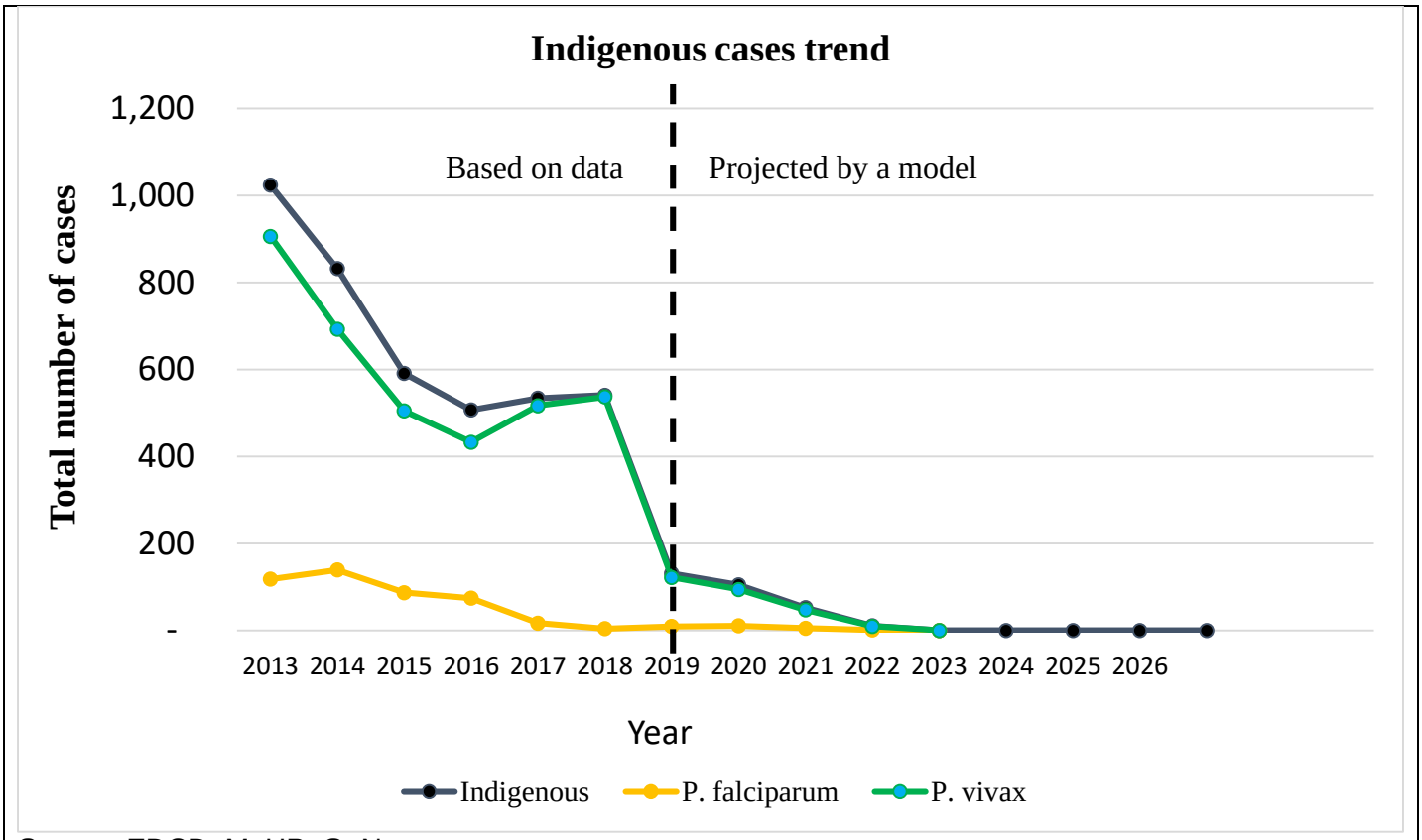
Figure-5:



Source: EDCD, MoHP, GoN

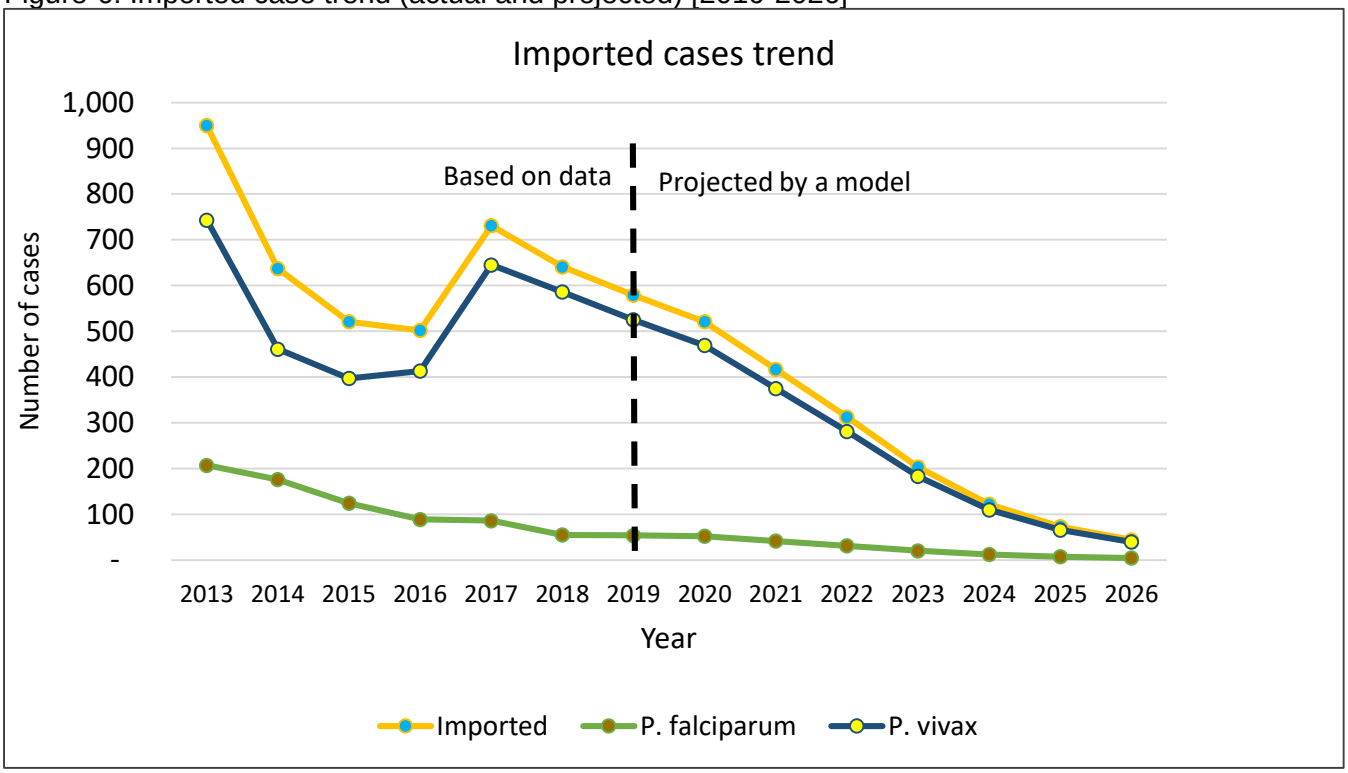
Figure-6: Indigenous case trend (actual and projected) [2010-2026]

[19] This version is in-line with the WHO Global Technical Strategy for Malaria (GTS) 2016-2030 (2015) and WHO Framework for malaria elimination (2017). The NMSP also is in line with the commitments made by Nepal to attain Sustainable Development Goals (SDGs) and pursue key strategic areas in 2017 Ministerial declaration on Accelerating and Sustaining Malaria Elimination in South-East Asia Region as well as APLMA Leaders' Elimination Roadmap (2017).



Source: EDCD, MoHP, GoN

Figure-6: Imported case trend (actual and projected) [2010-2026]



Source: EDCD, MoHP, GoN

The Funding Request has been developed by a Core Task Team comprising EDCD and Save the Children International (SCI) [current and proposed Principal Recipient (PR)], WHO technical experts under the overall leadership and guidance of the MoHP and Nepal Country Coordinating Mechanism (CCM). Besides, desk review of policy, strategy, guidelines, budget, progress reports, previous review and assessment reports, the GF guidance and management letters, various published documents, etc.

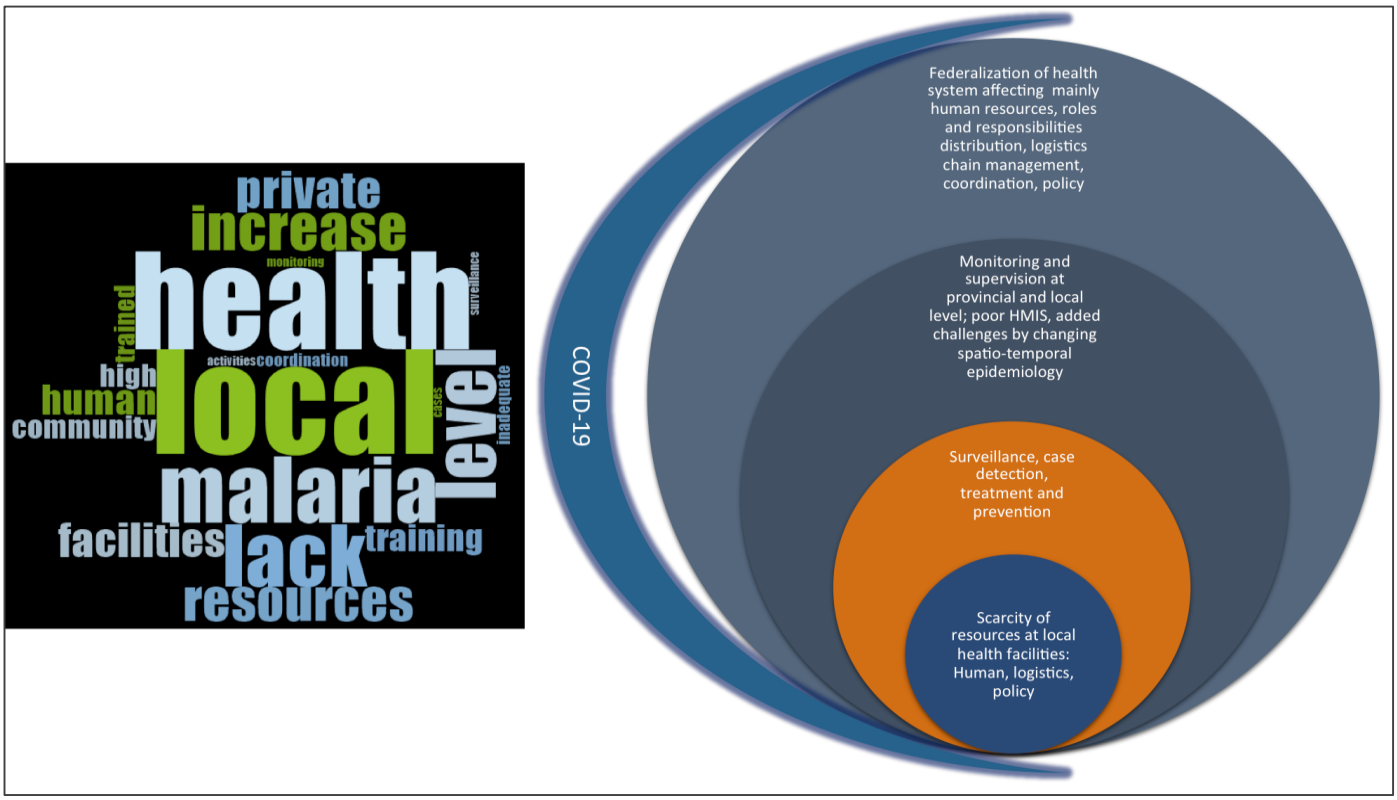
Furthermore, under the aegis of the EDCD, MoHP, several **stakeholder consultations at provincial and community levels** were held to deliberate on prioritization of modules and interventions for this Funding Request. A total of 17 Focus Group Discussions (FGDs) were conducted in 17 districts of all seven provinces (due to Covid-19 and consequent lockdown, the consultations were held virtually). The participants included: People infected/affected by malaria in the community (including risk groups such as migrant workers, people working in construction projects, brick factories, and forests goers, security services; Palika and ward president's/chair person or representatives; Local Leaders; Local Security representatives; Officials from Palika Health Unit and the health institutions; Malaria focal person from health office; Staff from Public Hospitals; and private sector stakeholders (from private hospitals and practitioners); community level healthcare providers, viz. FCHVs and ANMs; besides representatives/senior officials from central, provincial and district levels; and partners (SCI-PR), the WHO. At provincial level, one consultation in each province was held in addition to one national level consultation (with participation by key stakeholders including NGOs/CSOs). Priorities were underscored in each of the consultation and a report was generated.

Challenges: Federalization with three tiers of governance structures poses challenges related to effective coordination between the tiers and are common across the provinces. While increased roles and responsibilities are devolved to the provincial and local governance structures, the lack of adequate capacity, particularly trained human resources remains a major barrier and is further compounded by the lack of strategic planning at the local level. At the local level, logistics and supply chain management remain a challenge. There were unmet demands for LLINs, besides lack of regular supply and availability of RDT kits. At the heart of the problem as stated above, is the lack of trained health workers at local health facilities and in the community. Following the federalization, the distribution of roles and responsibilities has rendered some of the health facilities deprived of human resources with required skills and capacities to diagnose and treat malaria cases. Epidemiological challenges have also been highlighted; particularly since many of these communities and provinces especially those bordering India have a high burden of imported malaria reflecting a high proportion of mobile and migrant population. Some of the communities and provinces had difficulty in adequately reporting the imported cases, as it required an optimized surveillance system in place such that cases are identified, reported and investigated at the earliest. This had an adverse impact on the accurate and complete data reporting on the DHIS 2-HMIS. Nonetheless, accurate and timely reporting remains an outstanding problem at community level within most of the provinces regardless of the burden of malaria. Further, the general lack of awareness about malaria at the community level, particularly as the burden of malaria has been reducing over the years, has been seen to be problematic. This has an adverse effect on early and appropriate health seeking behaviour including adherence to antimalarials. In addition to these community concerns, lack of policy and budgetary constraints at the palika structure has further limited their roles in initiating community level activities. A summary of overall challenges and issues highlighted from these consultations are presented in Figure-7.

Recommendations: Recommendations were put forth that aligned with the challenges and gaps identified and echoed across the consultations. For instance, there were recommendations for strengthening of engagement and coordination between the tiers of governance to bridge the gaps as well as need for optimized supervision and monitoring; regular training/orientation, regular review meetings, were deemed essential, which would also facilitate knowledge transfer between the three tiers. Critical need for (trained) human resources with specific skill sets at all levels were recommended including malaria focal points for implementation and coordination between key implementers. Specific health human resources such as laboratory technicians at facility level and (trained) health workers at community level were recommended to be vital in addition to the need for an overall health system strengthening. Strengthening the logistics supply chain management was echoed in all provinces, particularly to ensure RDTs, medicine and LLINs reach especially high risk wards. Increased surveillance through early case detection, diagnosis and reporting was recommended through mobilization of community level FCHVs/ any potential community resources. In addition, given the high proportion of vivax malaria and the prolonged treatment regimen for radical cure, FCHVs/potential community resources were recommended to ensure the adherence of antimalarials. Furthermore, aware of a high share of imported malaria in Nepal's malaria epidemiology, early testing of returned migrants were recommended and specifically, through FCHVs and any potential community resources. Increase in testing was also recommended for febrile patients who were on hold or in quarantine during the COVID-19 pandemic situation. At the community level, community based activities were recommended to increase awareness on malaria, promote early health seeking

behaviour and preventive measures. In addition, integrating malaria related information in the school course curriculum was also recommended.

Figure-7: Salient challenges and issues from community and provincial level consultations for prioritization of modules and interventions



Source: EDCD, MoHP, GoN

Accordingly, the goal and objectives for this Funding Request are harmonized with those in the NMSP 2014-2025 (updated version-2020)

Goal:
Reduce the indigenous cases to zero by 2022 and sustain zero malaria mortality.

Objectives:
1. Strengthen surveillance and strategic information on malaria for effective decision making.
2. Ensure effective coverage of vector control intervention in the targeted malaria risk areas.
3. Ensure universal access to quality assured diagnosis and effective treatment for malaria.
4. Develop and sustain support from leadership and communities towards malaria elimination.
5. Strengthen programmatic technical and managerial capacities towards malaria elimination.

It is expected that this Funding Request would be vital to support the NMSP 2014-2025 (updated version-2020) goals and objectives. Thus, expected impact and outcome (year-wise) indicators and projected targets in this Funding Request are as under (Table-4 and Table-5):

Table-4: Expected impact

Impact indicator	Baseline (2019)	2021	2022	2023	2024
Confirmed malaria cases (microscopy or RDT): rate per 1000 persons per year	0.8710	0.0505	0.0374	0.0254	0.0158
Inpatient malaria deaths per year: rate per 100,000 persons per year	0	0	0	0	0
Malaria test positivity rate	0.53%	0.20%	0.12%	0.06%	0.03%

Number of active foci of malaria	107	35	16	5	0

Note: Funding Request period is 16-March-2019 to 31-July-2024. Impact related performance data is formally reported from the DHIS2-HMIS after a time lag of nearly 12 months (only after publication of DoHS Annual Report); hence the targets are set accordingly in performance framework and this table. The baseline year and years in the proposed grant period mentioned here are the reporting years although programme implementation years are 2018/19 for baseline and 2020/21, 2021/22, 2022/23, 2023/24 that are aligned with fiscal years.

Table-5: Expected outcome

Impact indicator	Baseline (2019)	2021	2022	2023	2024
Proportion of population that slept under an insecticide-treated net the previous night	79.6%		85%		90%
Proportion of children under five years old who slept under an insecticide-treated net	85.7%		90%		92%
Proportion of pregnant women who slept under an insecticide-treated net the previous	85.0%		90%		92%
Proportion of population with access to an ITN within their household	91.3%		95%		95%
Annual blood examination rate: per 100 population per year (elimination settings)	1.64%	2.5%	3%	4%	5%

Note: Funding Request period is 16-March-2019 to 31-July-2024. Outcome related performance (except ABER) would be assessed through household surveys proposed to be conducted in 2022 and 2024. For ABER, data is formally reported from the DHIS 2-HMIS after a time lag of nearly 12 months (only after publication of DoHS Annual Report); hence the targets are set accordingly in performance framework and this table. The baseline year and years in the proposed grant period mentioned here are the reporting years although programme implementation years are 2018/19 for baseline and 2020/21, 2021/22, 2022/23, 2023/24 that are aligned with fiscal years.

Key considerations for prioritization of the modules and interventions:

- NMSP 2014-2025 (updated version-2020)
- Country context (including current malaria situation, epidemiology); Health sector strategy and resource
- 2019 micro-stratification (due to COVID-19, updating micro-stratification is postponed)
- Federal structures
- Funding landscape
- Resource envelope (the GF Allocation and the GoN commitments)
- Lessons learned and challenges, bottlenecks
- Country dialogue
- The GF strategy, guidelines and instructions, portfolio analysis, previous TRP comments, Audit report of the GF grant
- National protocols, guidelines relating to treatment, surveillance, integrated vector management, private sector engagement, amongst others
- Recommendations from the 2017 MTR, 2018 surveillance assessment, and other survey/assessments including health facility survey (2018), private sector mapping (2018), LLIN utilization survey (2019)

In alignment with this background, the following modules and interventions are prioritized:

- Case management
    - Facility based treatment
    - Integrated community case management (iCCM)
    - Private sector case management
    - Therapeutic efficacy surveillance
    - Active case detection and investigation (elimination phase)
    - IEC/BCC
    - Other case management intervention(s)
- Vector Control

    - Long-lasting insecticidal nets (LLIN) - Mass campaign- Universal
    - Long-lasting insecticidal nets (LLIN) - Continuous distribution – ANC
    - Entomological monitoring
- RSSH: Health Management Information Systems and M&E
    - Routine reporting
    - Analysis, evaluations, reviews and transparency
    - Survey
    - Program management
    - Coordination and management of national disease control programs
    - Grant management

Accordingly, the following elements are prioritized with the GF Allocation under above-mentioned modules and interventions:

- Optimizing case management especially strengthening of community response as core intervention especially in complex geograhies and challenging settings
    - Nepal aims to utilize existing community level health workers – FCHVs as well as position additional community based resources (cadres) – 'Village Malaria Workers (VMWs) to strengthen malaria surveillance and services at community level as a strategic initiative (especially in the context of challenges due to federalization, and spatio-temporal distribution of malaria] and to address barriers and inequities, including those related to human rights and gender (55 in number in 2021 and later planned to scale up to 255 in number by 2023 in phased manner). The FCHVs and VMWs would be responsible for community based testing (CBT) and prompt treatment (by the nearest health facility), reporting and support other interventions including but not limited to treatment adherence particularly supervised radical treatment for vivax cases [kindly refer to section 2.2 for details]
- Private sector engagement: orientation, supply of RDTs and antimalarials, reporting (exchange mapping information with TB, HIV programmes)
- Accelerating surveillance as a core intervention including strengthening of case and foci investigation in line with national and global guidelines (following 1-3-7 approach)
- Initiation of malaria services targeted to mobile and migrant populations through existing health desk (under TB, HIV programmes) at points of entry (including along international border with India)
- Continued therapeutic efficacy surveillance
- Strengthening of M&E: quality assured programmatic granular data for analysis and use; timeliness and completeness in reporting; optimal DHIS 2-HMIS coverage and inter-operability options with MDIS; and establishment of malaria elimination database; periodic review meetings at different levels with emphasis on programme progress; independent (external) programme review to assess progress towards elimination and recommend way forward to sustain elimination and prevent re-introduction, and guide appropriate updates in NMSP, guidelines to steer future activities and investments
- Strengthening of integrated vector management (with special emphasis on universal coverage by LLINs/IRS (particularly strengthen LLIN procurement processes in the context of decentralization to support timely and quality-assured LLIN distribution and consistent protection of at-risk populations identified through micro-stratification); and enhancing entomological monitoring
- Strengthening programme planning and management in terms of adequately qualified and trained personnel/health workers with required skill sets and provision of high-quality supervision/mentoring system; uninterrupted and quality assured PHPs through robust PSCM; strengthened programme and financial systems; continuation of support by the GF PR to EDCD
- Improved evidence-based IEC/BCC through channel-mix and community engagement (including key and vulnerable populations, migrant networks) for responsive behaviours and participation
- High level as well as local level advocacy for sustained commitments
- Initiation of cross-border discussions with facilitation and support by the WHO
- Multi-stakeholder coordination and partnership
- Operational research to generate evidence on sustainability/threats of malaria elimination efforts

The intervention-mix including but not limited to, strengthened case based surveillance and M&E and use of strategic information for decision-making especially at local levels and strengthened community based testing through involvement of FCHVs and VMWs, are core focus in this Funding Request. Towards elimination, case-based surveillance where every case is investigated and managed to avoid onward transmission is expected to effectively tackle remaining foci. Based on the investigation, the foci of

transmission would be identified; appropriate vector control and antimalarial-based interventions would be deployed to rapidly interrupt transmission. In addition, efforts would be strengthened to effectively address imported malaria too that pose threat for re-introduction of cases in malaria-free areas. Besides, universal coverage by appropriate vector control measures, as well as strengthened private sector engagement, capacities at all levels, QA/QC mechanisms, programme management, and coordination and collaboration within country and across international border, amongst others together with strong political commitment and community support are also emphasized. With this, strengthening of health and community systems are expected, which are essential for achieving and sustaining elimination.

The applicant request for the most prioritized interventions is adjusted within the limited GF Allocation (USD 4,156,410). Overall NMSP 2014-2025 (updated version-2020) budget for 2021-2025 is USD 36,823,226. It is to be noted that many country needs as envisaged in the NMSP 2014-2025 (updated version-2020) would be supported by the GoN (as contribution for co-financing requirements; as well as towards demonstrating and translating commitments for elimination with domestic investments and sustainability, although the GF support has been and would continue to be vital for achieving and sustaining elimination). However, some unfunded quality demand would still remain [funding gap for the upcoming period (FY 2021/22-2023/24) is 19% after the GoN resources and the GF Allocation amount are considered relative to the NMSP need of 22,640,040 for the same period. Additional resource mobilization would be explored from various partners and even from the GF (from any efficiency, additional funding etc.) apart from technical assistance from the WHO.

Although priority and quality demand, certain important interventions are included under PAAR (with an estimated budget of USD 1,822,000) due to limited Allocation amount. Example, community case management, robust surveillance and M&E, capacity building through training/re-training, much needed specialized HR with critical skill sets at provincial level as well as technical assistance, advocacy (especially at local levels subsequent to federalization) and intensified IEC/BCC through multiple channels, strategic cross-border collaboration are extremely imperative. Yet, either only part costs or none could be proposed for many such interventions under limited Allocation. Such quality demand is priority and would complement and support the interventions proposed under Allocation and bridge critical gaps, bottlenecks, challenges and risks in: scaling up for universal intervention coverage as well as ensuring resilient and sustainable systems for health; tackling barriers and inequities; and fostering commitment and ownership at local levels. These priority interventions have immense potentials to contribute to measurable impact and outcome as set in the NMSP 2014-2025 (updated version-2020). Even though the GoN is committed to achieve and sustain malaria elimination, yet the domestic resources are not entirely commensurate with the entire resource needs for implementation of the NMSP 2014-2025 due to various constraints. It would be strategic to invest in these priorities to ensure optimal returns on investments by the GoN and the GF as well as towards sustaining the gains made so far and precluding reversal of achievements and progress in the pathway to elimination. Since the Allocation amount is limited, the GF is requested to consider PAAR positively, whilst efforts would continue to explore/mobilize additional GoN and other resources. Kindly refer to the PAAR template for detailed module- and intervention-wise activities and related costs.

Further, most activities have been included under disease specific modules. Only one RSSH module ‘Health Management Information Systems and M&E’ is prioritized. However, some of the activities; example, involvement of FCHVs/VMWs, QA/QC, ToT, trainings/re-trainings, PSCM, IEC/BCC & community engagement, would contribute to RSSH (RSSH: Health products management systems, Human resources for health, including community health workers, Health sector governance and planning, Community systems strengthening, and Laboratory systems). In view of overall linkages with disease (malaria) modules and to avoid fragmented selection and prioritization with relatively small proportion of activities/amounts under several modules, etc., activities are reflected under this module.

2.2 Funding Priorities

a) Based on the Global Fund Modular Framework, use the table below to detail **each prioritized module** proposed for Global Fund investment for the relevant disease component(s) and/or Resilient and Sustainable Systems for Health (RSSH).

COMPONENT: *Malaria*

Module # 1	**Case management**
Intervention(s) & Key Activities	**1) Intervention: Facility based treatment** Key activities: • Procurement of RDTs for and supply to public sector health facilities, community level (and drugs and diagnostics distribution cost from center to province) • Antimalarials for public sector health facilities, community, private sector • Follow up of confirmed malaria cases (supervision, follow up for treatment adherence in *vivax* malaria cases) according to NMTP • Training and refresher training of medical doctors on NMTP and case management - public sector • Strengthening of microscopic centers (according to the National Malaria Laboratory Plan (2020) [support for logistic supplies and functioning of microscopy (microscopy consumables)] • Orientation on elimination, NMTP and test, treat and track and reporting of malaria cases for health care providers – public sector • Dissemination of national laboratory plan and improving internal QA/QC of malaria microscopy at province level (workshop) • Supportive supervision visits of laboratory personnel from central to province and district level for strengthening of QA/QC • Conduct external malaria microscopy competency assessments (includes TA) • QA/QC of Health Products/Pharmaceuticals (per GFATM rules) • Technical support [HR: Technical Specialist, Microbiologist; and provincial level laboratory personnel (on cost sharing basis)] **2) Intervention: Integrated community case management (iCCM)** Key activities: • Orientation of FCHVs and VMWs • Case detection in community by FCHVs and VMWs **3) Intervention: Private sector case management** Key activities: • Engaging private sector provider for case detection, notification, and reporting • Training and refresher training of medical doctors on NMTP and case management - private sector • Orientation on elimination, NMTP and test, treat and track and reporting of malaria cases for health care providers – private sector • Advocacy meeting for engagement with private sector **4) Intervention: Therapeutic efficacy surveillance** Key activities: • Therapeutic efficacy studies **5) Intervention: Active case detection and investigation (elimination phase)**

	Key activities: • Case investigation • Focus investigation • Foci Response/Active case detection and follow-up at Active Foci • Supervision and verification of case investigation • ToT for province, district level staff on case detection, case investigation, transmission focus investigation and response • Training for field staff at local level on case detection, case investigation, transmission focus investigation and response • On site mentoring and coaching of existing border health desks at PoE (20 in number) under TB/HIV control programmes on screening of suspected malaria cases and information dissemination to migrants • Technical support (HR: provincial level surveillance personnel) **6) Intervention: IEC/BCC** Key activities: • Meeting with NHEICC at central level to develop BCC materials for various target audience including migrants • Public service announcements (jingle production and broadcasting through FM radio, others) • Development of pre and post-travel information materials (print materials/jingles) for broadcasting in inter-country/province bus services and at existing health desks at points of entry **7) Intervention: Other case management intervention(s)** Key activities: • Printing of guidelines & SOPs and other documents • Dissemination of surveillance and other guidelines at province, district and local levels • Freight and insurance (health products/pharmaceuticals)
Priority Population(s)	• Key and vulnerable population (including mobile and migrant populations, poor and marginalized sections; women and girls; men having occupation related exposure; and others as mentioned in section 1.2) • Population in high, moderate risk areas and even low and no risk areas (when suspected cases seek diagnosis & treatment); and population in active foci
Barriers and Inequities	Barriers and inequities due to economic and socio-cultural factors affecting appropriate health seeking behavior, access especially amongst key and vulnerable populations (kindly refer to section 1.2)
Rationale	Early diagnosis and prompt treatment is a core strategy in NMSP 2014-2025 (updated version-2020). This module and interventions are aligned with NMSP and (and Funding Request) objectives 1, 3, and 5. **Facility based treatment; Integrated community case management (iCCM); Private sector case management:** Maximizing coverage of case diagnosis by quality-assured Rapid Diagnostic Tests (RDTs)/microscopy and complete treatment of confirmed cases with appropriate anti-malaria drugs free of charge would be priority through public, community-based and private channels and making efforts to improve quality. All fever cases would be tested in high, moderate and low risk districts as well as all symptomatic cases with an indicative travel history in districts categorized as 'no risk'. Strengthening of detection of malaria infection and case management is being continually pursued in entire country. [With such strengthening, it is assumed that at least 5% of suspected malaria cases (fever cases) would be brought under case detection network (across public sector, community and private sector) by 2023, improving the ABER from the current low levels (1% in 2019)]. This is in-line with the increased case detection requirements associated with elimination.

At **public sector health facility** level, it is assumed that 70% of total estimated suspected malaria cases would be tested in 2021 and 60% in 2022, and 53% in 2023, since community level case management is being rolled out and planned to be scaled up in addition to private sector case management.

Of total tests, 80% tests are expected to be done by RDTs and the rest (20%) by microscopy. Whilst efforts are ongoing to strengthen quality-assured microscopy according to the national laboratory plan (2019), yet this is work in progress. Moreover, at local level, many Health Posts and even PHCCs would use RDTs due to variable microscopy provision public sector facilities although use of RDTs in such facilities as well as higher levels are encouraged only when microscopy services are not functional for some reason, e.g. absenteeism, off-duty hours, and emergencies. All confirmed malaria patient would be followed up for treatment adherence and recovery. Any adverse event and referral, as appropriate (according to NMTP guidelines, checklist) would be ensured.

Community-based case management is proposed as a core response. It is envisaged to utilize the trained FCHVs existing under public health system for community based testing (CBT). In addition, community based VMWs (preferably female and resident in the area) are proposed in selected high and moderate risk wards (where outreach requires further strengthening) as well as few receptive low risk wards with relatively large number of mobile and migrant populations. This initiative would expand malaria services right at the community level as well as boost surveillance. This would also foster responsive behaviours and community mobilization. With this, further extension/strengthening of public sector malaria services is expected and contribute to RSSH.

As mentioned in section 1.2 and 2.1, community based testing (CBT) [as an extension public sector malaria services at the grassroots] would contribute to total tests to be conducted on suspected malaria cases towards achieving country targets [contributing 5%, 10%, 12% to total estimated testing in 2021, 2022, 2023].

Subsequent to training, both FCHVs and VMWs would test suspected malaria cases with RDTs (in line with the NMTP: based on symptoms and/or indicative travel history). When malaria is confirmed, they would inform the nearest health facility immediately by instant messaging/call for prompt treatment. The FCHV/VMW would ensure that the patient receives the malaria treatment without delay (by the nearest health facility). In the event travel to health facility by patient is not possible, the staff would provide treatment in the community besides taking slide for QA/QC. Case investigation, foci investigation would be conducted as per national protocol by the health facility, once the case is notified. The trained FCHVs and VMWs would follow up the patients at community level for treatment adherence (in person or by SMS alert message) and recovery as well as support in/liaise with health facilities with regard to reporting any adverse event and referral, as appropriate (according to NMTP guidelines, checklist). Each case detected by FCHVs/VMWs would be cross-checked with slide microscopy prepared by health facility staff (responsible for treatment). The local body focal person would conduct monthly testing audit and would share the feedback with local health facilities and FCHVs/VMWs. On site mentoring by the local health facilities would be conducted regularly.

In addition, the FCHVs and VMWs would also support screening of cases in active foci, LLIN distribution and use, and community participation in IRS. They would disseminate malaria messages through inter-personal communication (IPC) during house visits and also support various community IEC/BCC activities towards generating demand for malaria services (especially targeting key and vulnerable populations facing various barriers and inequities).

Guidelines for selection of FCHVs/VMWs and an operational plan for rolling out CBT by such community resources would be developed with EDCD in the lead, key stakeholders and disseminated at local levels (including the details described here in addition to

others). The FCHVs and VMWs would receive simple instruction/guidance in local language as well as app IEC/BCC materials. A certification criterion would be developed for the FCHVs/VMWs for CBT and would be regularly reviewed. Only those with minimum criteria would be allowed to conduct CBT. Such details would also be included in the operational plan.

Involvement of FCHVs (20 in number) and VMWs (35 in number) for CBT is proposed to roll out from 2021 in 55 priority wards (Table-6a, b). Orientation and incentives for this community resource group is proposed with the GF Allocation from 2021-2023.

Table-6a: Roll out plan for FCHV/VMW involvement in malaria elimination in 2021

S.No.	Province	CBT sites (wards)	No. of pre-selected SR	No. of VMWs proposed	No. of FCHVs proposed
1	Province 1	1	1	35	20
2	Province 2	5			
3	Bagmati	3	1		
4	Gandaki	1			
5	Province 5	13	1		
6	Karnali	8	1		
7	Sudur Paschim	24	1		
	Total	55	5	35	20

Table-6b: Roll out plan for FCHV/VMW involvement in malaria elimination in 2021

	2021	2022	2023
VMWs	35	60	90
FCHVs	20	95	165
Total	55	155	255

In 2021 (in year 1), it is proposed that five Sub Recipients (SRs) [NGOs/CSOs] pre-selected under TB, HIV programmes would support the launch/roll out of CBT (in view of somewhat prolonged processes due to federalization and need for SOP/orientation at all levels especially local levels). The support would include, identification of FCHVs in selected sites, recruitment of the VMWs, their management and periodic performance reporting (programme & financial) with the respective local level in the lead. The SRs would coordinate with the local levels for orientation of FCHVs and VMWs and supportive supervision, performance reviews with support from the SMC and the entomologist from respective provincial level.

From 2022, the FCHVs and VMWs (55 in number) would be entirely under the leadership of the local level (and proposed under the GF Allocation) drawing from the implementation and coordination experience. Full support would be provided by the EDCD in coordination with the PR. The SRs would hand over the responsibilities to the local level. It is expected that regular engagement and advocacy, orientation/training would capacitate the local level and ensure full commitment for the malaria elimination agenda. [Scaling up of FCHVs and VMWs to 155 sites in 2022 and 255 sites in 2023 are proposed under PAAR. Those community cadres would also be under the local level]. As the national programme aims at achieving and sustaining malaria elimination, it is important that this community resource are supported through the upcoming grant period and later transition to and assimilate with the national health workforce. A total of 255 community cadres would be supported by the GoN from 2024.

As mentioned earlier, CBT would be rolled out in selected high, moderate risk wards and in low risk areas with higher burden of imported malaria and migrant mobility. In areas where CBT is not operational, the FCHVs would refer the suspected malaria case to nearby health facilities for diagnosis and management. In such areas, confirmed cases would also be followed by the FCHVs for treatment adherence and any adverse event and

	referral, as appropriate. iCCM adopted for malaria programme is focused on community based testing and treatment by local health facilities who are also responsible for various other programmes at community level. The FCHVs (and the VMWs) would be supporting such efforts in selected areas initially with progressive expansion in others areas, as mentioned above (key intervention in this Funding Request for strengthening case management and case based surveillance at the community level as well as awareness/responsive behavior that need to continue towards achieving and sustaining malaria elimination). As also mentioned, the management of the community cadres like VMWs would be done by Sub Recipients (SRs) in the first year and later would be handed over to the local body. The national programme would supply the RDTs, anti-malarial, BCC/IEC materials. The FCHVs also is rolled out and gradually expanded to 255 wards by 2023. The FCHVs are the backbone of public health program in Nepal. The adopted iCCM approach that is envisaged to be incorporated to their activities would further strengthen the FCHV system and strengthen the community surveillance/case management for malaria. Further, in view of huge proportion of imported malaria, the trained FCHVs and VMWs would play important role in early case detection with fever screening, enhancing/maintaining community awareness and mobilization. They would test fever cases among returning migrant population (mostly from India) at community level and even along identified areas along international border. Being local, they would be expected to be aware/identify the migrant groups in community. They would support case based surveillance activities by the health facility according to the national surveillance guidelines. **Private sector** (registered private sector providers) would be a complementary channel to support and contribute to optimal case management subsequent to trainings/orientation. It has been noted that people including mobile and migrant populations are accessing private sector (as revealed by the private sector survey, 2018 apart from various information from the field). Already, engagement with private sector has been initiated with reporting from some entities. Such efforts would be scaled up according to the private sector engagement (PSE) guidelines (2020). The objective of the PSE is to ensure quality assured early diagnosis and prompt and effective and quality assured treatment as per the NMTP in the private sector. It also envisages timely case notification to facilitate case-based surveillance and timely and complete malaria information from the private sector to accelerate malaria elimination. The key activities with special emphasis on the private sector engagement include: 1) mapping of malaria service in private sector in the local body; 2) ensuring universal quality diagnosis & prompt, effective, and complete treatment in the private sector; and 3) strengthening the private sector environment and enabling the environment for private sector to timely notify and report malaria cases and build partnership. It would be imperative that all suspected malaria cases are confirmed by RDT/microscopy and all confirmed malaria cases are treated promptly with anti-malarial drugs and tracked as per the national guidelines. Once the positive case is reported from private sector, district focal person/local health coordinator would be activated and with the help of surveillance staff, local level health facilities would verify the case and the test results. Prompt treatment would be ensured for every malaria case with emphasis on treatment adherence and recovery. If the test were done by locally procured RDTs by the private sector entity, the test would be repeated with the government supplied RDTs. Alternatively, as per the need/local situation & available facilities, microscopy slides would be prepared in the private hospital and would be sent to the district or nearest microscopic center when the malaria patient is referred for treatment. As part of routine quality assurance, all slides from RDT confirmed or suspected patients would be sent to the nearest designated microscopic centers for cross-verification of slides. Any discrepancy in the results would be further validated through the provincial and central reference centers according to national quality assurance system. Provincial and national malaria reference laboratories periodically review RDTs for quality

check from the private sector, which would be ensured.

Database (including private sector) of QA/QC would be maintained at the local, provincial, and central levels. Regular supervision and monitoring and onsite coaching and mentoring would be provided to the service delivery points (including private sector). Confirmed malaria patient will be followed up for the drug compliance and recovery.

Advocacy for engagement with private sector (in a phased manner starting from high risk areas) is proposed for the purpose. In this Funding Request, advocacy [including interaction with private sector through private associations viz. Association of Private Health Institutions of Nepal (APHIN)] is included.

The EDCD in coordination with provincial and local bodies would conduct series of capacity building/strengthening activities for private sector on: malaria diagnosis with hands on training for RDT testing, malaria microscopy, orientation on national QA/QC system for malaria diagnosis. With progressive engagement, private sector is expected to contribute 25%, 30%, 30% of total estimated tests of suspected cases in 2021, 2022, 2023, respectively and case reporting on DHIS 2-HMIS, MDIS (thereby contributing to strengthening of surveillance and ABER). Whilst initiating mapping of the private sector, it is envisaged that information would be exchanged with TB and HIV control programmes so as to widen the network of private sector partners subsequent to joint orientation initiatives.

It is assumed that all confirmed malaria cases would receive first-line antimalarial **treatment in public sector, community and private sector** according to national treatment protocol (2019). It is envisioned to augment supervised radical treatment of vivax cases through incentivized follow up visits by patients (besides sensitization of the patient/family/community about the extreme importance of treatment adherence through IEC/BCC, community mobilization activities that are proposed under appropriate module as well as those to be funded with domestic resources). The FCHVs & VMWs as well as health facilities at local level would also be trained/re-trained repeatedly on the importance of treatment adherence as well as any adverse event and referral, as appropriate (in case of vivax malaria). The national programme has supplied the G6PD/PoC tests in high/moderate risk areas with communities having high prevalence of G6PD deficiency as shown by local studies (2018)[20]. The NMTP recommends G6PD test, if available, prior to PQ treatment. However, the test should not delay the treatment. Trained FCHVs/VMWs would strictly follow up all patients on radical PQ treatment with supportive supervision by health facilities to comply with adherence and observe any adverse event (on specific days of treatment - 3,7,14 days of PQ treatment).

Supply of quality assured RDT and microscopy related health products/equipment, antimalarials, for public sector, community and private sector would be partly supported with the GF Allocation. A summary of health product and pharmaceutical needs that are proposed under the GF Allocation is as under:

- 50% of total microscopy need in public sector in each year
- 60%, 50% & 40% of total RDT need in public sector in 2021, 2022 and 2023, respectively
- All antimalarial need for public sector, community, private sector

Additional RDTs are also proposed with the GF Allocation [for contingencies (outbreaks, disasters, etc.), proactive and reactive case detection in active foci, as well as a nominal amount for no risk wards]. Rest of the country need in public sector would be supported by the EDCD with government funding. The private sector would meet their rest of the needs with their own resources. The private sector has been briefed and would be briefed as PSE is strengthened on the use of prequalified RDTs for malaria diagnosis. Regular

[20] Marasini et al. Malar J (2020) 19:287. https://doi.org/10.1186/s12936-020-03359-6

meetings/supervision would be conducted by EDCD to supply prequalified RDTs to identified private sector for quality diagnosis.

Need based trainings (for new ones) and re-trainings (for existing ones) [on elimination, NMTP and test, treat and track and report malaria cases] for public sector cadres, and orientation of community level health workers and private sector providers are critical need and proposed with the GF Allocation. In addition, on site orientation efforts would also be attempted.

Diligent supervision and monitoring of case management in public sector, community, private sector would be vital to ensure adherence to national protocol/guidelines, including but not limited to use of quality-assured health products, treatment of only confirmed malaria cases, timely and complete reporting (kindly refer to the module: Health Management Information Systems and M&E).

Regular monitoring and supervision visits from government authorities at different levels are integrated with other programmes like RMNCH. However, in certain circumstances, focus is majorly on the malaria component.

Furthermore, **Quality Assurance (QA)** is critical component of malaria diagnosis. In line with the NMSP 2014-2025 (updated version-2020), the National Laboratory Plan 2020-2025 has been developed. The objectives are to: 1) Ensure functional network of quality assured laboratories in the country; 2) Ensure quality assured diagnosis of malaria at all levels of health facility; 3) Establish mechanism for quality assurance/ quality control for malaria diagnostics; 4) Develop capacity of health workers in malaria diagnosis and QA/QC protocol; and 5) Develop synergy of key national stakeholders for implementation of this plan. Going forward, this national plan would be applied in public sector, community as well as private sector (those who would be included as complementary partner in service provision/surveillance). In this background, few commodities and workshop for dissemination of this plan as well as external malaria microscopy competency assessments are proposed with the GF Allocation. Local level and the PHD would conduct frequent visits to service delivery points for supportive supervision and monitoring. Technical capacity building/strengthening of these staff would be ensured by regular training, supportive supervision by the EDCD.

It is to be noted that **opportunities for integration** across disease control programmes and linkages with the broader health systems to improve disease outcomes, efficiency and program sustainability has been discussed under the aegis of the MoHP as well as Nepal CCM (viz. laboratory services, QA/QC, trainings/orientation of public sector, community, private sector; contribution of FCHVs). Laboratory staff at province level (with PR) are proposed with the GF Allocation [cost sharing with other programmes]. These endeavours would progressively contribute to RSSH.

Healthcare service delivery is integrated in Nepal in terms of use of infrastructure, HR, procurement and supply system. Efforts have been made in this Funding Request for initiating integrated approaches, viz. towards strengthening of laboratory systems (contributing to RSSH: Laboratory systems) especially at the provincial public health labs. Services from these labs would be provided for all diseases with shared HR.

The national malaria laboratory plan envisions microscopy centers for malaria at selected HP, PHCC, district hospitals, and regional hospitals. Going forward, the microscopy centers would be identified under TB programme where the infrastructure, human resources are adequate based on the geography, malaria risk and would be leveraged for malaria microscopy. Likewise, laboratory services under HIV programme would also be leveraged. The national programme would provide necessary training, certification to the HR from these centers. As required, microscope and reagents would be supplied to these selected centers. These centers would be under the national QA process. Moreover, the provincial PMUs consist of a laboratory person for the provincial level PHL and would be

	responsible for QA of the laboratories for TB/HIV and malaria as per the national laboratory plans to ensure quality of diagnostic services. In districts with migrant population, community based cadres (under malaria as well as TB/HIV programmes) would be involved for supporting prevention, information dissemination initiatives. **Therapeutic efficacy surveillance:** There is a huge concern regarding parasite resistance to antimalarials, especially ACT and chloroquine across various countries including those in the Mekong region. Studies have excluded drug resistance in Nepal so far. However, monitoring of therapeutic efficacy of antimalarials is crucial and hence is proposed with the GF Allocation. The TES would be conducted in selected sites following the WHO guidelines and expected to generate data on efficacy of recommended antimalarial drugs, thus, ensuring evidence-based treatment and constant watch on Artemisinin resistance. **Active case detection and investigation (elimination phase):** Surveillance is a core intervention of NMSP 2014-2025 (updated version-2020). The National Malaria Surveillance Guidelines have been developed in 2019 in view of changing epidemiology and subsequent to the recommendations by 2017 external MTR followed by 2018 in-depth surveillance assessment in addition to global, regional guidance and in-country deliberations. Timely case investigation, foci investigation as per the national surveillance guidelines and response are key to elimination. The country is implementing a 1-3-7 approach to case-based surveillance, whereby: all suspected cases are immediately tested using RDT/microscopy; all confirmed cases are immediately treated according to the national malaria treatment protocol and followed up for treatment adherence. The confirmed malaria cases are reported to web based Malaria Disease Information System (MDIS) immediately (within 24 hours) through by text message (SMS) [real-time notification] by the service provider. [This real time web based software system is primarily used to trigger case based surveillance]. If they are unable to do so, the malaria focal point at the district/local level is informed by phone, and the focal point enters the details themselves to ensure every case is included on MDIS in a timely manner. Following case notification, all confirmed cases are investigated within 3 days using standard Case Investigation Forms; and all suspected foci are investigated within 7 days using standard Focus Investigation Forms. All active foci are responded to within 7 days. It is to be noted that this approach is already in place even though mandatory notification of malaria cases by all sectors is under approval, as mentioned in section 1.2. [Kindly also refer to module: RSSH: Health Information System and M&E]. Every case classification (indigenous or imported) is verified by responsible/supervising officer at local/provincial level and would continue. Trainings/orientation on case investigation, focus investigation and response are crucial and conducted periodically. Due to federalization, case investigation and focus investigation have yet to be optimal. However, this is an utmost priority and would be strengthened and brought to full-scale in the context of elimination. MDIS captures real time malaria information, so the information facilitates case & foci investigation and response besides guiding programme planning, implementing and procurement and supply chain management. All focal persons at local level are oriented on reporting via MDIS in addition to the community level. The private sector too, has been informed about compliance with mandatory notification of all malaria cases via the same mode as and when confirmed by RDT/microscopy. Besides, information materials have been distributed across all the HFs and private sector on timely case notification via MDIS. Although MDIS has been initiated with learning-by-doing approach, it needs to be further strengthened in its scope and coverage including various tertiary and central/federal level hospitals, military/security forces, etc. This platform is planned to be integrated under HMIS-DHIS2.

The MDIS is designed for case notification, which triggers case investigation and not for routine recording and reporting. Currently, the MDIS is developed/run in PHP format. Towards interoperability with HMIS-DHIS2, another format would be required (according to IT experts) and planned by 2022. The MDIS would continue to be a platform for immediate reporting of malaria cases. Going forward, the case-based information on malaria cases would be captured using DHIS-2 based malaria module integrated within the current HMIS (kindly refer to module: RSSH: Health Management Information Systems and M&E).

The local malaria focal person based at the Local Body or Health Office (HO) or the local Surveillance Medical Coordinator (SMC) then immediately reviews the MDIS report for veracity and provides feedback to the health worker who reported the positive case. After verification, case investigation is initiated by 48 hrs. The local malaria focal person, local FCHV (and going forward by VMWs as well), the health worker who reported the case together with a laboratory assistant and in consultation with SMC visits the patient's locality and, using the Case Investigation Form, investigate and classify the case. If the case is classified as indigenous case acquired in another ward/palika/district then the relevant person (local malaria focal person, SMC, relevant others), depending on the origin of the case) communicates with the source ward, palika, district so that an appropriate investigation can be carried-out at the source of the infection. Discussions are held to follow similar strategy in imported cases acquired in another country through cross-border collaboration [kindly refer to module: Programme Management (and PAAR template)]. The focus investigation and response team conducts ACD as per surveillance guidelines (2019). The ACD visits continue monthly/quarterly until caseload falls to zero and the focus is cleared (any additional cases results in a return to bi-weekly ACD visits for a month). At times, the SMC or local malaria focal person may also decide to establish temporary supplementary passive case detection (PCD) services in areas with limited access to diagnostic services. The focus investigation and response team would work together with FCHVs/VMWs and local leaders for IEC/BCC activities and community mobilization in the focus area to seek early treatment in the event of symptoms, to adopt self-protection measures and to support vigilance, screening and control efforts. In case recent data from the area does not already exist, entomological (vector and larval habitat) assessment is conducted and Integrated Vector Management (IVM) as per national guideline is implemented [coverage with LLINs or Indoor Residual Spraying (IRS), and in some cases implementing Larval Source Management (LSM) or other measures as appropriate based on needs].

Furthermore, it is important to note that roll out of test, treat, track strategy is envisaged at 20 health desks at **points of entry (PoE)**. Symptomatic screening at all the PoEs would be done in an integrated manner with TB and HIV programmes (with no cost implication for additional HR). Nine PoEs are planned to be strengthened as part of TB grant that would be leveraged for malaria services (screening, testing and referral) and IEC/BCC; whilst malaria services at the rest of the 11 PoEs would be operationalized as part of overall health systems strengthening efforts by the GoN (starting with those in high and moderate risk areas). Migrants would be reached predominantly at source (with their spouses) as well as in transit (departing and returning migrants).

In addition, any case diagnosed at the PoE would be referred to the focal person of the local body by the PoE staff. Any additional screening and treatment, if needed would be carried out at the PoE. Provision of RDTs and antimalarials would be made (from local/ward level) subsequent to their orientation (which would include malaria module and reporting through MDIS). IEC/BCC materials would also be provided to the health desks. During recruitment of health desk HR, the ToRs would explicitly include malaria service related components. Linkages would be built with the local level for oversight along with provincial level. On site mentoring and coaching of integrated TB/HIV and malaria would be done on screening of suspected/febrile malaria cases besides information dissemination to migrants. This would contribute to strengthening of surveillance along the

	border (within national boundaries) especially since majority of the imported cases are found amongst those returning from India. Relevant information would be shared with the WHO at country and regional levels for initiating discussions on possible **cross-border** collaboration especially with India, going forward (with facilitation/coordination by the WHO, APLMA and other regional platforms). The national programme with support and facilitation from the WHO would conduct comprehensive situation analysis and develop roadmap & operational plan to strengthen cross border synergies to fight imported malaria (kindly refer to module: Program management). It is also to be noted that **outbreak responses** would be in line with the NMTP and surveillance guidelines. The previously "malaria free areas" have been re-stratified to risk areas as per yearly malaria risk micro-stratification. Vector control interventions are provisioned, viz. LLIN distribution through mass campaigns and continuous channels (ANC) especially ensuring coverage for vulnerable populations as well as IRS (kindly refer to module: Vector control). RDTs and antimalarials are available up to the lowest level of health facilities. As already mentioned, CBT by FCHVs/VMWs is priority in these areas. Stockpiling of insecticides for IRS, LLINs, RDTs in geographically remote areas that have been previously practiced would continue. Capacity building through trainings/supportive supervision of health workers/local health facilities in these areas has progressively improved and would continue to deal with any potential outbreak situation. Regular scanning of HMIS/MDIS/EWARS is also done for data review, analysis, etc. **IEC/BCC:** Behavior change communication (BCC) is an important component of the NMSP 2014-2025 (updated version-2020). IEC/BCC would be applied through evidence-based and local- and context-specific BCC channel-mix. BCC activities would: address human rights- and gender-related barriers to seeking appropriate healthcare services, uptake and use of malaria interventions; and address differences amongst and within populations (i.e. cultural, socio-economic, geographic, gender, occupational, literacy and others) that may affect access and utilization of interventions; and adaptation based on changes in transmission dynamics which often influence perceptions of risk. In coordination with NHEICC, WHO, and relevant others, communication tools and materials would be developed particularly targeting mobile and migrant populations and other key and vulnerable populations (especially women and those working in forest, farms) as well as for general population. Language/dialect, socio-cultural elements. would be kept in mind. IEC/BCC would also focus on enhancing community participation in malaria elimination efforts. In view of huge proportion of imported malaria (~80%), targeted messaging would be done in terms of pre- and post-travel information on malaria prevention broadcasted through local FMs, leaflet distribution at the border posts (PoE). A communication strategy is planned in coordination with NHEICC for dissemination and implementation. At community level, the FCHVs and VMWs would provide information on malaria prevention, early and appropriate health seeking options, prompt & complete treatment even when the migrants are at their workplace. In addition, SMS alert for incoming migrants woud be developed in coordination with telecom sector as corporate social responsibility (CSR). The entire package (overarching for case management, vector control modules) would be aligned with local socio-cultural norms and practices of the target audience. The focus would be on importance of appropriate health seeking behaviour, EDPT, treatment adherence, adoption of responsive behaviour regarding use of LLINs, adoption of IRS, environmental management and supporting case/focus investigation and response (especially highlighting the importance of screening and immediate treatment). Messages through mass media especially radio is an important channel for IEC/BCC even for mobile and migrant populations and proposed here in addition to information materials. [Other IEC/BCC channel-mix, community engagement would be applied with domestic

	resources. The FCHVs and VMWs would be key support at the grassroots for such engagement in addition to local level champions, school children, migrant networks/communities, others for receiving and synthesizing community-generated ideas, their meaningful involvement, etc. for strengthening strategy and implementation. Further, campaigns drawing from others such as 'Zero Malaria Starts with Me'[21] are envisaged on World Malaria Day apart from various activities]. **Other case management intervention(s)** Few activities like printing and dissemination of guidelines & SOPs and other documents, etc. have also been proposed with the GF Allocation. The interventions would maximize returns of the investments through achievement of desired impact in terms of reduction in transmission, disease burden and are expected to particularly facilitate addressing the needs of key and vulnerable populations. For this module, kindly also refer to the programme gap, performance framework for assumptions, estimations and comments. Technical support (HR for supporting case management and surveillance are proposed with the GF Allocation. At provincial level, technical support (with the PR) is proposed on cost sharing basis with TB and HIV programmes. Kind attention of the GF is drawn to the fact that only some of the activities are proposed with the limited GF Allocation. Some activities are proposed under PAAR (although priority and quality demand). The GF is requested to positively consider funding requested under PAAR. The GoN would also support many needs as envisaged in the NMSP 2014-2025 (updated version-2020) as part of the co-financing requirement and translating commitments for elimination with domestic investments and sustainability, although the GF support has been and would continue to be vital for achieving and sustaining elimination. However, some unfunded quality demand would remain. Additional resource mobilization from various partners and even from the GF would be explored later (from any efficiency, additional funding etc. The private sector is expected to meet their microscopy needs with their own resources. Most activities have been included under disease specific modules. Only one RSSH module 'Health Management Information Systems and M&E' (Module #3) is prioritized. However, some of the activities, viz. involvement of FCHVs/VMWs, QA/QC, ToT, trainings/re-trainings, PSCM, IEC/BCC & community engagement, etc. would contribute to RSSH (Health products management systems; Human resources for health, including community health workers; Community systems strengthening; and Laboratory systems; and Health sector governance and planning). However, In view of overall linkages with disease (malaria) modules and to avoid fragmented selection and prioritization with relatively small proportion of activities/amounts under several modules, etc., activities are reflected under this module].
Expected Outcome	Prioritization of the module, interventions would contribute to the following performance framework indicators: • Malaria I-2.1 Confirmed malaria cases (microscopy or RDT): rate per 1000 persons per year [malaria cases reduced - indigenous cases reduced to zero and imported cases reduced by 65% by 2023] • Malaria I-3.1(M) Inpatient malaria deaths per year: rate per 100,000 persons per year [zero death due to malaria maintained]

[21] Zero malaria Starts with me. https://www.who.int/campaigns/world-malaria-day/world-malaria-day-2020; https://endmalaria.org/sites/default/files/Zero%20Malaria%20Toolkit%20Final.pdf

	• Malaria I-4 Malaria test positivity rate (reduction to 0.03% by end of grant - in 2024) • Malaria I-9(M) Number of active foci of malaria (reduction to zero by end of grant - in 2024) • Malaria O-9(M) Annual blood examination rate: per 100 population per year (Elimination settings) [detection of suspected malaria cases progressively improved in elimination setting of Nepal to at least 5% by 2023] • CM-1a(M) Proportion of suspected malaria cases that receive a parasitological test at public sector health facilities (100%) • CM-1b(M) Proportion of suspected malaria cases that receive a parasitological test in the community (100%) • CM-1c(M) Proportion of suspected malaria cases that receive a parasitological test at private sector sites (100%) • CM-2a(M) Proportion of confirmed malaria cases that received first-line antimalarial treatment at public sector health facilities (100%) • CM-2b(M) Proportion of confirmed malaria cases that received first-line antimalarial treatment in the community (100%) • CM-2c(M) Proportion of confirmed malaria cases that received first-line antimalarial treatment at private sector sites (100%) • CM-5(M) Percentage of confirmed cases fully investigated and classified (100%) • CM-6(M) Percentage of malaria foci fully investigated and classified (100%) • M&E-2a Completeness of facility reporting: Percentage of expected facility monthly reports (for the reporting period) that are actually received (90% by 2023) • M&E-2b Timeliness of facility reporting: Percentage of submitted facility monthly reports (for the reporting period) that are received on time per the national guidelines (80% by 2023) In addition, it is also expected to contribute to the following outcomes: • strengthened case management in public sector and in community • strengthened community-level response • enhanced engagement with private sector for EDPT according to national guidelines and timely and complete reporting • enhanced access to quality assured diagnosis and effective treatment, especially by priority populations overcoming barriers and inequities; • strengthened supervised treatment of vivax cases for radical treatment • discontinued treatment of presumed/clinical malaria • optimal QA/QC of microscopy/RDT • strengthened surveillance and strategic information for effective decision making especially strengthened case based surveillance (case and foci detection, investigation, classification) and response according to 1-3-7 strategy • strengthened synergistic initiatives for mobile and migrant populations together with other disease control programmes (TB, HIV) at points of entry • enhanced knowledge and awareness about benefits of zero malaria; appropriate health seeking behavior, early diagnosis and prompt and complete treatment, daily and correct LLIN use, acceptance of IRS, screening, etc. • strengthened support by communities and local levels through effective engagement • strengthened capacities of all relevant cadres and transfer of knowledge especially enhancing test, treat, track in community by capacitating FCHVs/VMWs • strengthened RSSH (Community Systems Strengthening; Laboratory systems; Human resources for health, including community health workers; Health products management systems; Health sector governance and planning)
Expected Investment	**USD 1,712,153 (41%)**

Module # 2	**Vector Control**
Intervention(s) & Key	**1) Interventions: Long-lasting insecticidal nets (LLIN) – a) Continuous distribution (ANC); b) Long-lasting insecticidal nets (LLIN) - Mass campaign - universal**

Activities	Key activities: • Procurement and distribution of LLINs - continuous distribution (ANC) • LLIN distribution - mass campaign **2) Intervention: Indoor residual spraying** Key activities: • Responsive spraying for any outbreak situation **3) Intervention: Entomological monitoring** Key activities: • Monitoring of insecticide resistance in sentinel sites • Refresher training on malaria entomology at central level and in selected districts for entomologists and technicians • Procurement of entomological equipment and reagents • Technical support (HR: for supporting entomological component at central and provincial level)
Priority Population(s)	Pregnant women and other key and vulnerable populations (kindly refer to section 1.2); Population at risk in high and moderate risk areas
Barriers and Inequities	Barriers and inequities relating to economic and socio-cultural barriers
Rationale	Integrated Vector Management (IVM) has been adopted as the key vector control strategy and IVM guidelines have been updated in 2020 with the aims to further reduce & interrupt malaria transmission and eliminate foci. In addition to mass and continuous distribution of LLINs, another key intervention for vector control is IRS. In addition, larval source management (LSM) is done by environmental manipulation and management. The guidelines highlight importance of evidence-based application of vector control measures, drawing from entomological information, insecticide effectiveness and efficacy, as well as inter-sectoral collaboration and community engagement. This module and interventions are aligned with NMSP and (and Funding Request) objective 2. **Long-lasting insecticidal nets (LLIN) - Continuous distribution - ANC:** One of main interventions for vector control aimed at protecting people from mosquito biting and preventing transmission is the use of LLINs. LLINs are distributed in moderate and high-risk areas (depending on micro-stratification) with support of the GF and various partners, stakeholders through mass campaigns as well as targeted continuous distribution to vulnerable populations viz. pregnant women through ANC programme. With the GF Allocation, continuous distribution of LLINs would be conducted for pregnant women living in high and moderate risk areas based on updated annual risk stratification through ANC clinics towards protecting mother and infant. In addition, pregnant women from adjoining wards visiting health facilities (ANC centres) in high and moderate risk areas would also be covered. Counseling through inter-personal communication would be done for correct and consistent use (even when childbirth requires isolation for a period in some communities). 100% LLIN need in 2021 and 50% LLIN need in 2022 for continuous distribution (ANC) are proposed to be supported with the GF Allocation. Such LLINs would be procured through the GF mechanism. Continuous distribution of LLINs for the rest of the priority populations - key and vulnerable populations and those in active foci (where IRS has not been conducted or where not feasible) would be met with domestic resources. LLINs for mass campaigns for at risk population in high and moderate risk areas including specific risk groups every three years would be procured with GoN resources. However, in-country transportation, warehouse, distribution costs are proposed with the GF

	Allocation (when mass campaign would be scheduled). In addition, local level coordination meetings, orientation of community mobilizers and other stakeholders, monitoring visits, and printing and dissemination of log books and coupons are also proposed. Due to procedural constraints, the procurement and distribution processes are at times hampered. However, discussions are held and efforts are/would be taken to address the issues. It is expected that mass campaigns as well as targeted distribution for key and vulnerable populations would be conducted to ensure timely and consistent protection. Important surveys on regarding net utilization has been presented under the intervention 'Analysis, review & transparency' under module 'Health Information System and M&E'. **Indoor residual spraying:** Another main intervention for vector control is aimed at preventing transmission is the spraying of eligible structures with insecticides. It is implemented within the framework of Integrated Vector Management (IVM) as per guidelines. Currently, the IRS spray is being used twice a year in 32 districts to control Kala-azar and Malaria as there is significant overlap between endemic malaria and Kala-azar districts; besides as a foci response and in any outbreak situation. With the GF Allocation, only responsive spraying for any outbreak situation is prioritized (contributing to strengthening of epidemic response). **Entomological monitoring:** Vector control interventions require information on local vectors, vector habits, densities, and sensitivity to the insecticides being used. Insecticide resistance of malaria vectors, which is likely to evolve with extensive use of pyrethroids on LLINs, IRS insecticides and may be a threat to elimination. Regular entomological surveillance, including insecticide resistance (IR) monitoring would be carried out in selected sites based on eco-epidemiological representativeness. For the purpose, it is proposed to capacitate the public sector healthcare cadres in addition to the entomological teams on determining and characterizing dominant mosquito species in the area, vector density, biting behavior, as well as testing mosquitoes' susceptibility to insecticides for insecticide resistance monitoring. This is expected to somewhat address the challenges being faced due to scarcity of trained staff that can perform the basic entomological functions. In addition equipment for entomological monitoring are proposed with the GF Allocation. Continued technical support with specific expertise & experience is proposed for supporting entomological component at central and provincial level (one at central level and five at provincial level). At the latter level, technical support (with the PR) is proposed on cost sharing basis with TB and HIV programmes for synergy. For this module, kindly also refer to the programme gap, performance framework for assumptions, estimations and comments related to LLINs. Kind attention of the GF is drawn to the fact that only some of the activities are proposed with the limited GF Allocation. Some activities are proposed under PAAR (although priority and quality demand). The GF is requested to positively consider funding requested under PAAR. The GoN would also support many needs as envisaged in the NMSP 2014-2025 (updated version-2020) as part of the co-financing requirement and translating commitments for elimination with domestic investments and sustainability, although the GF support has been and would continue to be vital for achieving and sustaining elimination. However, some unfunded quality demand would remain. Additional resource mobilization from various partners and even from the GF would be explored later (from any efficiency, additional funding etc. The private sector is expected to meet their microscopy needs with their own resources.
Expected	Prioritization of the module, interventions would contribute to the following performance

Outcome	framework indicators: • Malaria I-2.1 Confirmed malaria cases (microscopy or RDT): rate per 1000 persons per year [malaria cases reduced - indigenous cases reduced to zero and imported cases reduced by 65% by 2023] • Malaria I-4 Malaria test positivity rate (reduction to 0.03% by end of grant - in 2024) • Malaria I-9(M) Number of active foci of malaria (reduction to zero by end of grant - in 2024) • Malaria O-1a Proportion of population that slept under an insecticide-treated net the previous night (reaching 87% by 2023) • Malaria O-1b Proportion of children under five years old who slept under an insecticide-treated net the previous night (reaching 92% by 2023) • Malaria O-1c Proportion of pregnant women who slept under an insecticide-treated net the previous night (reaching 92% by 2023) • Malaria O-2 Proportion of population with access to an ITN within their household (reaching 95% by 2023) • VC-1(M) Number of long-lasting insecticidal nets distributed to at-risk populations through mass campaigns • VC-3(M) Number of long-lasting insecticidal nets distributed to targeted risk groups through continuous distribution In addition, it is also expected to contribute to the following outcomes: • Optimal coverage of vulnerable population (pregnant women) by effective vector control intervention (LLINs) in the targeted malaria risk areas; other key and vulnerable populations; and populations at risk • Timely response by IRS in active foci following case and focus investigation; and any outbreak situation • Evidence-based selection and application of vector control measures through strengthened entomological surveillance • Updated knowledge on local vectors, their bionomics and susceptibility to insecticides used
Expected Investment	**USD 429,520 (10%)**

Module # 3	**RSSH: Health Management Information Systems and M&E**
Intervention(s) & Key Activities	**1) Routine reporting** Key activities: • Installation and maintenance of server for electronic based malaria reporting system (for MDIS) • Integration of malaria surveillance into national DHIS 2-HMIS [review of malaria modules, printing & dissemination] • SMS reporting and phone charges **2) Analysis, evaluations, reviews and transparency** Key activities: • Supportive supervision, mentoring by EDCD + PR to province, local levels • Supportive supervision, mentoring by provincial level (SMC, Entomologists and concerned others) to local levels • Meeting on micro-stratification at central and province levels • Procurement of GIS software • Assessment of surveillance system • Technical Working Group meeting • External program evaluation • Bi-annual review of community case management by local body

	• Bi-annual review by province of public sector, community and private sector case management, surveillance • Program review and coordination meeting involving central, province, district and local level • Establish microscopy/RDT quality database at province level • Procure and supply consumables - research purpose (with regard to molecular diagnosis by PCR) • Technical support (HR: for supporting M&E, MIS, communication & documentation at central and provincial levels) **3) Survey** Key activities: • Household survey for availability and use of LLINs
Priority Population(s)	• Key and vulnerable population (including mobile and migrant populations, poor and marginalized sections; women and girls; men having occupation related exposure; and others as mentioned in section 1.2) • Population in high, moderate risk areas and even low and no risk areas (when suspected cases seek diagnosis & treatment); and population in active foci
Barriers and Inequities	Barriers and inequities described in section 1.2
Rationale	Robust surveillance and monitoring and evaluation systems and strategic information are crucial for elimination. As mentioned earlier, strengthening surveillance and strategic information are core strategies in NMSP 2014-2025 (updated version-2020). This module and interventions are aligned with NMSP objective 1, 2, 5. The national M&E plan is being updated and would provide guidance on M&E at all levels. A grant M&E plan would be updated and disseminated. **Routine reporting:** Robust Monitoring & Evaluation including for strategic planning and decision-making is critical. A well-designed and functional system for routine data collection recording, compilation, reporting, analysis and feedback exists involving public, community, and private sector. Currently, malaria cases are reported using three different systems: 1. Malaria Disease Information System (MDIS) (case notification within 24 hours of case detection that triggers for case investigation); 2. District Health Information System 2 (DHIS-2) (aggregate, monthly data)-HMIS; and 3. Early Warning and Reporting System (EWARS- which covers only hospital-based reporting). Diagnosis performance data (ACD and PCD) from public, community and private sectors are collected monthly using standard recording and reporting registers and forms. All health facilities across country need to report malaria related information each month (electronically or submit hard copies) to respective local level (palika) by 1st week of next month, which goes in web based DHIS 2-HMIS system after verifying by respective focal person and statistics assistant by 2nd week of next month (although this system is still variable especially with regard to timeliness, efforts are constantly made towards improvement). Furthermore, the EDCD based M&E unit for malaria further verifies and analyzes and use data for programme implementation & management. Public sector health facilities' performance data from local level (Palika) [including community level data] is available through monthly DHIS 2-HMIS reports. At the end of the month, each private health facility is also required to submit monthly aggregated malaria report to respective local levels by first week of next month through monthly DHIS 2-HMIS reports [private sector has also started entering malaria data into DHIS2-HMIS themselves]. An overview of malaria HMIS is mentioned here. Integrated Health Management Information System (IHMIS) section under the Management Division of the MoHP is the central body for all health-related national data. This section manages health service information from community to the DoHS through pre-defined process and procedure. This

robust system is almost 19 years old and well set that provides the base for planning, monitoring and evaluation of health systems at all levels. The national malaria programme is one of the priority public health programmes, which is integrated with other programmes under national IHMIS. All records of testing and treatment are properly mentioned in respective registers developed by IHMIS section [viz. HMIS 5.2 (lab register) to maintain testing record and HMIS 5.3 (treatment register) for line listing of confirmed cases]. In addition, the IHMIS section has developed HMIS reporting tools (HMIS 9.3/9.4/9.5). Each health facility needs to prepare/submit aggregate monthly report of their health services to IHMIS (DHIS2 based) by second week of next month. Respective Palika, District, Province review the data and provide feedback as required besides regular supportive supervision and mentoring. Periodic data review workshops are also organized by different levels. IHMIS section has been providing training/orientation to respective health workers on recording/reporting tools on regular basis. In addition, EWARS and MDIS are also complementing malaria reporting. EWARS is hospital-based malaria reporting (already in DHIS2 platform). The MDIS is a real time web-based notification system to trigger case Investigation. The MDIS software is developed by EDCD (with support from IT experts) for the notification of cases diagnosed at health facilities to support real-time case-based reporting, case investigation, focus investigation and response. Partners including SCI (PR), GIZ, and WHO have been supporting in IHMIS section for robust recording and timely, complete, and consistent reporting. In coordination with IHMIS section, the EDCD have been providing orientation to private sector on malaria recording, reporting, regular monitoring, on site mentoring and coaching, regular data verification and feedback, besides assisting in review meeting, supplies of recording/reporting tools (in emergency situation). The GoN owns the IHMIS. Other partners such as GIZ is also supporting in IHMIS.

Malaria case data are uploaded on and reported from national DHIS 2-HMIS. While MDIS (kindly refer to module: case management) captures reporting of malaria case in real time via free SMS/call to trigger case based surveillance; aggregated detailed reporting of PCD and ACD data from service delivery points/reporting units provide aggregated data to all levels for review, analysis and use. As mentioned above, the MDIS platform is planned to be integrated under HMIS-DHIS2. Towards interoperability with HMIS-DHIS2, another format would be required (according to IT experts) and planned by 2022. The MDIS would continue to be a platform for immediate reporting of malaria cases. Going forward, the case-based information on malaria cases would be captured using DHIS-2 based malaria module integrated within the current HMIS.

Strengthening and integrating malaria data within the national data system, HMIS-DHIS2, is a program priority and expected soon. Currently, IHMIS expanded HMIS/DHIS2 coverage throughout the country. All the health facilities (public and private) must submit their health services aggregated reports to DHIS2-HMIS electronically. Currently, the completeness and timeliness of malaria reporting is 75% and 19%, respectively. Although regular trainings are held, there is still gap for timely reporting and completeness including data consistency with additional challenges due to federalization that is being addressed. This is due to the frequent transfer of trained staff, yet to be optimal orientation and focus on malaria recording/reporting, and lack of designated persons for regular reporting at the local levels.

Besides, emphasis is being given on data analysis and interpretation at the peripheral/district/provincial/central levels and timely feedback (strategic as well as regarding any for any error, inconsistency, deviation) for use especially at local levels. Periodic workshops to review data quality are also conducted.

Analysis, evaluations, reviews and transparency:
Malaria **risk stratification** at ward level would continue annually based on new epidemiological data and evidence towards prioritizing and planning context-specific interventions. The population at risk and information on the entomological attributes, and the vulnerability and receptivity of a ward would be based on recent data and evidence

	generated by operational research/entomological monitoring. Although initiated in few districts, it is proposed that geographical mapping of malaria cases would be carried out using GIS down to the household level (in all districts). All programmatic data (forms, registers, and reports, etc.) would continue to be maintained at each level safely and securely. These would be made available to the visiting officials during on site supervision, review meetings, evaluations (internal/external) for quality check/ assessment/ audit/ analysis. A consolidated malaria database is established to maintain line listing of all cases detected by RDT/microscopy is envisaged for use by the local, provincial level and central levels drawing from the HMIS and MDIS. For ensuring strategic planning, **data quality** is deemed critical. During supportive supervision visits, periodic reviews (as well as orientation, trainings/re-trainings) data quality would be reviewed from all dimensions[22], such as: completeness, timeliness, accuracy, reliability, precision, and integrity. Respective Palika, district, province and the central level review the data on regular basis and provide feedback. Regular supervision and monitoring, on site data verification have been ongoing on regular basis. In addition, periodic review meeting at different levels are conducted for quality data recording and reporting. The malaria data is reviewed periodically at the central level. It is to be noted that two indicators relating to completeness, timeliness of data by reporting units has been included in the performance framework. The Statistical Officers at provincial level and other cadres (medical officers and medical recorders at hospitals and health facility staff at the local level) particularly involved in data collation, aggregation, reporting, etc. would be trained and provided support during supportive supervision and on site data verification. Quality granular data analysis and feedback system would be ensured by on site mentoring, periodic review, and orientation and trainings. Programme **supervision** from central level to subnational levels as well as from provincial level to local levels (with participation by central level, as possible) would continue to be carried out periodically. Supportive supervision would facilitate process evaluation; assess, motivate and guide staff/health workers/volunteers; strengthen knowledge and skills; and provide opportunity for feedback/solutions in relation to practices, challenges, and issues. Together with provincial and local level officials, a calendar of supervision visits would be prepared (may include visits without notice to review the real situation). Standard checklists would be used (to guide strengthening of supervision relating to malaria component). The visits would include: direct observation, data review and verification in forms, records and registers, and patient/beneficiary visits, as appropriate. Feedback would be provided on site. Supervision visit reports would be completed with specific recommendations and disseminated. At the central and provincial levels, review meetings (kindly see below), synthesis of observations would be discussed/presented. The community resource - FCHVs and VMWs would be further capacitated, mentored and encouraged for their optimal participation and well-performing ones would be recognized (non-cash) at various platforms. Supervision of the private sector would be integral to all supportive supervision by/at all levels. The above-mentioned approach is currently ongoing practice in the country. The programme would continue such efforts/approaches in the current decentralized scenario. Furthermore, at the lowest level: PHCC/HP, supervision and monitoring are integrated with other programmes. As health workers at the local levels bear multiple disease programme responsibilities, supportive supervision entails all components. Support from the PHD and central levels is/ would be provided to local body for technical guidance, mentoring for strengthening of skills. Bi-annual **review meetings** would be held periodically to take stock of programme progress relative to plan, performance analysis vis-à-vis targets, and identify needs and gaps, bottlenecks and challenges and determine the way forward. Information on best

[22] Data Quality Audit Tool: guidelines for implementation. Chapel Hill, NC, MEASURE Evaluation, 2008 (http://www.cpc.unc.edu/measure/tools/monitoring-evaluation-systems/data-quality-assurance-tools/dqa-auditing-tool-implentation-guidelines.pdf).

practices/innovations and success stories would be shared, in addition to cross learning and consensus building on actions. The minutes/record notes would be shared for action, as necessary. During such meetings, participation by appropriate stakeholders, partners would be ensured from time to time towards inputs, collaboration and coordination. Review of private sector would be integral to the agenda.

From time to time, **joint missions** by the GF, WHO, EDCD and representative from the CCM would be scheduled to review the progress and to identify and address the challenges. **Evaluations** are envisaged at periodic intervals to understand: effectiveness of programme in terms of achievement of outputs, outcomes and impact relative to plan; efficiency in terms of resource utilization, integration/timely completion of activities. External programme review would be planned in 2022 under EDCD with technical support by the WHO and involvement of TWG, NMETF, NMESC, partner agencies, independent experts, research and academic institutions, and relevant others. The GF and local fund agent would join this review. This would provide recommendations for staying on course to achieve and sustain elimination and prevent re-introduction. Drawing from such exercise, appropriate updating of the NMSP (and various guidelines) is envisaged that would guide future activities and investments.

The national programme is guided by program reviews, regular technical and programmatic assessments, research (Reports of the mid-term review-2017, surveillance assessment-2018, TES-2017, G6PD study-2016/2017[23] are appended for reference, amongst others). **Operationally significant research** would be carried out. Research priorities, topics would be reviewed by the TWG periodically, as necessary and key findings and recommendations would be discussed during meetings. [Whilst request for funding some research topics is proposed under PAAR, the rest would be carried out with GoN resources]. Molecular diagnosis (by PCR assay) has emerged as the most sensitive method for malaria diagnosis. It is envisaged that such efforts would be initiated in research mode. Procurement of consumables for the pupose is proposed with the GF Allocation.

Survey:
Household surveys for availability and use of LLINs would provide the information regarding effectiveness of LLIN distribution. This would also provide data for outcome indicators in the performance framework. It is also envisaged to include assessment of impact of Behavioral Change Communication (overarching for case management, prevention, screening, etc.) besides LLIN availability and its use amongst beneficiaries to generate evidence for developing/updating strategies, guidelines and implementation mechanisms. Additionally, such information would be shared with relevant stakeholders, the GF, for performance review and advocacy, as appropriate and needed.

Technical support with specific expertise & experience is proposed for supporting M&E/MIS component at central and provincial level. At the latter level, technical support (with the PR) is proposed on cost sharing basis with TB and HIV programmes.

Kind attention of the GF is drawn to the fact that only some of the activities are proposed with the limited GF Allocation. Some activities are proposed under PAAR (although priority and quality demand). The GF is requested to positively consider funding requested under PAAR.

The GoN would also support many needs as envisaged in the NMSP 2014-2025 (updated version-2020) as part of the co-financing requirement and translating commitments for elimination with domestic investments and sustainability, although the GF support has been and would continue to be vital for achieving and sustaining elimination. However, some unfunded quality demand would remain. Additional resource mobilization from

[23] Marasini et al. Malar J (2020) 19:287. https://doi.org/10.1186/s12936-020-03359-6

	various partners and even from the GF would be explored later (from any efficiency, additional funding etc. The private sector is expected to meet their microscopy needs with their own resources.
Expected Outcome	Prioritization of the module, interventions would contribute to all performance framework indicators. In addition, it is also expected to contribute to the following outcomes: • strengthened M&E • strengthened routine reporting, data quality (completeness, timeliness, etc.) • improved use of programme data for better monitoring, decision-making and response especially at local levels • strengthened supportive supervision, on site coaching and mentoring • optimal programme performance relative to plan • actions on external programme review recommendations for achieving and sustaining elimination and preventing re-introduction; actions on survey recommendations
Expected Investment	**USD 646,005 (16%)**

Module # 4	**Program Management**
Intervention(s) & Key Activities	**1) Intervention: Coordination and management of national disease control programs** Key activities: • Task force meeting for malaria elimination at province and central levels • Meetings for strong political commitment for malaria elimination central and province level • Orientation and program briefing at local (Palika) level • Advocacy meeting with MoHP, Ministry of Communication, select corporate sector • International travel for conference, technical exchange etc. • Technical support from Head Quarter **2) Intervention: Grant management** Key activities: • Annual grant audit for all IPs • Rent and overheads-EDCD at central, province and district levels • Rent and overheads and operational cost (shared) - PR • Non-Health equipment, furniture and fixture – Principal Recipient • HR (for grant and finance management and coordination) • Management Cost - PR • Operational cost - SRs
Priority Population(s)	• Population of entire country; key and vulnerable populations
Barriers and Inequities	Barriers and inequities described in section 1.2
Rationale	As Nepal is aiming at elimination, strong political commitment, extensive support by and coordination with donors and partners would be extremely imperative to tread the 'last mile' and tackle the imported cases that pose a threat to offset the gains made so far. Strengthened programme management ensures efficient and effective implementation of interventions, improved coordination as well as robust capacity building and supervision. This module and interventions are aligned with all NMSP 2014-2025 (updated version-2020) objectives. **Coordination and management of national disease control programs:** Currently, a Technical Working Group (TWG) with the Director General of Department of Health Services as Chair is the highest coordination platform for malaria elimination. The

	TWG includes technical experts from various institutions, representation from developmental partners, INGO/NGO. The WHO serves as the permanent technical advisor to the TWG. The Director of EDCD is the member secretary in the TWG. The TWG advises the national malaria program on updated policies, strategies and technical guidelines based on evidence and in line with global recommendations contextualized to the country. The TWG also oversees equitable and evidence-based distribution of services and allocation of all program resources. Meetings of TWG are proposed with the GF Allocation. As a signatory to global and regional commitments regarding malaria elimination, Nepal's political commitment is demonstrated. A ministerial level Committee - 'National Malaria Elimination Steering Committee' (NMESC), to oversee elimination efforts is already envisaged. NMESC would ensure strong political commitment, ownership and robust financing for malaria elimination at national, province and local body level. It would provide high level consensus and multi-sectoral coordination to advocate and develop national policies for the malaria elimination. It would be high-level multi-sector collaborative body driving national effort, launching advocacy and facilitating coordination and support for malaria elimination. The 'National Malaria Elimination Taskforce' (NMETF) would be the executable body representing steering committee, national malaria program and the partners to drive and monitor progress in malaria elimination at the central level. The NMETF would include representatives from the EDCD, MoHP, provincial and local levels, technical partners including WHO and other bilateral partners, select NGOs and community advocates/champions, research & academic institutions, private sector representative, Military and other security forces, relevant non-health sectors and corporate sector. Similar bodies would be formed in Provinces (PMETF) and Local level (LMETF). It would report to the NMESC. Monthly reports from local body would be presented to PMETF. The PMETF would submit it to NMETF, which would then be presented to the TWG. The TWG would submit the report to NMESC. Advocacy is an important tool that would be utilized to support the malaria elimination efforts and sustain gains made so far. A broad-based advocacy package is envisaged targeting subnational leaders, decision makers as well as community leaders/influencers at all levels. Malaria elimination programme experiences, best practices, successes and lessons learnt would be disseminated amongst stakeholders during advocacy meetings supported by appropriate advocacy materials, various relevant knowledge products. The EDCD representatives would provide regular briefings to government ministers, stakeholders, donors, partners and opinion leaders. 'Champions/Brand Ambassadors' would be identified from socio-cultural milieu to advocate about malaria elimination and how this would support not only health and well-being but nation-building. Attempt would be made to promote Corporate Social Responsibility for generating resources from private/corporate sectors. Advocacy meetings etc. are proposed with the GF. Strong partnership and coordination is instrumental for malaria elimination. Strategic multi-sectoral collaboration at all levels would be priority for harmonized collective action. Partners would/are expected to provide support covering a broad range of programme areas. Resource sharing and support for partnering in Nepal's malaria elimination are/would be discussed. The EDCD has also built/builds partnerships and collaborations with bilateral and international agencies like the GF, WHO, USAID, GIZ, DFID, UNFPA, UNICEF, as well as malaria related regional platform/networks, viz. APLMA, APMEN, SAARC, RBM Partnership, research and academia, non-health and corporate sector. In view of huge proportion of imported malaria (mainly amongst returning migrants from India), cross-border collaboration would be priority. High-level meetings have been held between India, Nepal, and other countries to discuss cross-border collaboration for malaria elimination. Even though a joint MoU exists between India and Nepal for control of

	communicable disease from the past, cross border collaboration needs further strengthening in ensuing access to diagnosis and effective treatment, prevention tools to migrant and mobile population and information sharing between the countries. As mentioned earlier, Nepal shares long international border with India and most imported cases have history of travel from this neighbouring country. It is extremely imperative that cross-border initiatives in line with the WHO Operational Framework for Cross-border Collaboration (2017) are launched. With the GF Allocation, few activities (screening by health desk with linkages with MDIS, information dissemination through migrant networks, etc.) have already been proposed along international border within national boundaries. Efforts would be made to initiate cross-border collaboration as well as technical exchange especially with India as well as productive exchange would be attempted within the South-East Asia region and beyond as well in support of national and regional malaria elimination goals and commitments. The WHO would be requested facilitate and support comprehensive situation analysis and development of cross-border roadmap, operational plan between Nepal and India as well as joint meetings especially involving subnational levels in support of national and regional malaria elimination goals and commitments. [However, due to limited Allocation, initial cross-border meeting is proposed under PAAR and other cross-border actions are under discussion]. Efforts would be made to increase the knowledge base relating to the epidemiological and operational aspects/updates including border related malaria. International travel for technical exchange visits is proposed with the GF Allocation. **Grant management:** Successful malaria elimination depends on effective programme management, resilient and sustainable health systems including appropriate policy, strategy, and guidelines and planning, as well as skilled, motivated, and well-supported staff and service providers at all levels. Effective and efficient program management facilitates and supports robust implementation of interventions, QA/QC, PSM and M&E and governance, programme compliances, grant and finance management. These elements are vital to achieve desired outputs/coverage, outcomes and impact. Lessons learnt from the previous, ongoing projects have reinforced that dedicated and capacitated HR from various disciplines is crucial. The support provided by the PR [Save the Children International (SCI)] has been critical to the success of malaria programme and needs to continue if elimination targets are to be achieved. Staff, rent and overheads, TA from head office, other TA, equipment and furniture for the PR as well as rent and overheads for EDCD and provincial level and local levels are proposed with the GF Allocation. Technical support in terms of multidisciplinary experts with prime responsibility related to technical domains such as case management, surveillance and M&E, QA/QC, laboratory, is proposed under concerned modules. The HR related to grant and finance management (responsible for leadership and management, coordination, administration and finance, PSM, etc. is proposed under this module]. At the provincial level, the HR (with PR) is proposed on cost sharing basis with TB and HIV programmes. Kind attention of the GF is drawn to the fact that only some of the activities are proposed with the limited GF Allocation. Some activities are proposed under PAAR (although priority and quality demand). The GF is requested to positively consider funding requested under PAAR. The GoN would also support many needs as envisaged in the NMSP 2014-2025 (updated version-2020) as part of the co-financing requirement and translating commitments for elimination with domestic investments and sustainability, although the GF support has been and would continue to be vital for achieving and sustaining elimination. However, some unfunded quality demand would remain. Additional resource mobilization from various partners and even from the GF would be explored later (from any efficiency, additional funding etc. The private sector is expected to meet their microscopy needs with their own resources.
Expected	Prioritization of the module, interventions would contribute to all performance framework

Outcome	indicators. In addition, it is also expected to contribute to the following outcomes: • strong political commitment at the highest level • sufficient and sustained resource commitment by the GoN for malaria elimination • enhanced ownership by provincial and local levels driving the elimination agenda • augmented multi-sector collaboration for technical and implementation support and resource mobilization • progressively strengthened cross-border initiatives • strengthened programme implementation at all levels • enhanced technical and implementation capacities • robust programme and financial systems
Expected Investment	**USD 1,368,732 (33%)**

b) Does any aspect of this funding request use a **Payment for Results** modality?

☐ Yes ☒ No

If yes, in the table below, indicate the relevant performance indicators and rationale for the choice of performance indicators and/or milestones.

Performance indicator or milestone	Target				Rationale for the indicator/milestone selection for Global Fund funding
	Baseline	Y1	Y2	Y3	
Add rows if necessary					
Total amount requested from the Global Fund					

Specify how the accuracy and reliability of the reported results will be ensured.

NA.

c) Opportunities for integration: Explain how the proposed investments take into consideration:

- Needs across the three diseases and other related health programs;
- Links with the broader health systems to improve disease outcomes, efficiency and program sustainability.

Opportunities for integration across disease control programmes and linkages with the broader health systems to improve disease outcomes; efficiency and program sustainability has been discussed under the aegis of the MoHP as well as Nepal CCM (viz. laboratory services, QA/QC; trainings/orientation of public sector, community, private sector; malaria service provision and data collation at PoE; and contributions by FCHVs).

Various proposed activities have taken into account possible opportunities under the broader RSSH umbrella towards improving impact, outcomes and program sustainability (example, strengthening laboratory systems under national laboratory plan is expected to facilitate quality assured diagnosis and ultimately leading to better disease outcomes; strengthening capacities of public sector health system cadres including those serving peripheral levels and community levels would contribute to HRH; investment in DHIS2-HMIS, MDIS, GIS mapping of risk areas/surveillance interventions would strengthen the national HMIS and surveillance systems for targeted interventions). This would also support in generating efficiencies (example, deploying health workers from the same communities as well as integrated trainings for various components/cadres and utilization of existing venues, etc. are expected to generate efficiencies that can be reinvested in increasing coverage by key services, apart from possible future opportunities of health workers with both government and NGO serving across TB, malaria programmes.

The module - RSSH: Health management information systems and M&E is included in this application. However, the disease specific modules are also expected to contribute to: RSSH: Community systems strengthening; RSSH: Health products management systems; RSSH: Laboratory systems; RSSH: Human resources for health, including community health workers; RSSH: Health sector governance and planning; RSSH: Financial management systems. In view of overall linkages with disease (malaria) modules and to avoid fragmented selection and prioritization with relatively small proportion of activities/amounts under several modules, etc., activities are reflected under this module].

However, there are strategic components that would require disease specific focus and investments, and

integration may not be the best solution at this juncture.

d) Summarize how the funding request complies with the **application focus requirements** specified in the allocation letter.

The GF has two requirements to strengthen the overall impact and sustainability of Global Fund investments, one of which is the **application focus requirements** which outlines how the country should invest GF financing. As Nepal is classified as a low-income country, there are no restrictions on the programmatic scope of allocation funding requests. However, most modules and interventions are requested to support the NMSP 2014-2025 RSSH interventions are also included in the Funding Request (even activities with disease specific modules) are expected to contribute to RSSH. Most interventions are also focused on responses targeted for key and vulnerable populations, human rights and gender-related barriers, inequities and vulnerabilities in access to services and community engagement, which would enable fast tracking progress towards malaria elimination.

e) Explain how this funding request reflects **value for money**, including examples of improvement in value for money compared to the current allocation period. To respond, refer to the *Instructions* for the aspects of value for money that should be considered.

As Value for Money (VfM) is the key principle that guides the GF's investments throughout the grant life cycle, the totality of all the five VfM-related dimensions (economy, efficiency, effectiveness, with equity and sustainability) have been meticulously followed while developing this Funding Request. Efforts would continue to ensure VfM while strengthening quality interventions through one or more of the following options:

- Quality assured health products are budgeted at the lowest sustainable costs. Procurement of health products and antimalarials (RDTs, microscopy consumables, LLINs) is done with participation by the EDCD and SCI with emphasis on minimizing the costs of inputs. All procurement from the GoN budget is done by Public Procurement Monitoring Office (PPMO) as per the Procurement Act and Regulations. Both national competitive bidding (NCB) and international competitive bidding (ICB) methods including e-bidding processes are followed in case of GoN budget. In case of the GF budget, Pooled Procurement Mechanism (PPM) is used for procurement purpose.
- Integration with other disease programmes as well as within the wider health systems under RSSH.
- Activities are proposed together with TB, HIV control programmes especially targeting tailored responses for mobile and migrant populations as well as others (viz. strengthening PSM, laboratory services, integrated orientation sessions for health desks in PoE and private sector).
- Roll out of CBT through pre-selected SRs of TB/HIV programmes on cost sharing basis; besides deploying community health cadres from the same communities.
- Service utilization of medical doctors, health workers for service delivery across other disease programmes.
- The public sector health systems would provide malaria services in addition to others. All GoN cadres at central, provincial level, local levels have multiple responsibilities. Utilization of public health infrastructure and HR for programme implementation, supervision and monitoring.
- Utilize national, provincial, and local venues for trainings/re-trainings, workshops.
- Community based BCC activities as well as IPC (especially to reach out to key and vulnerable populations) would continue to be effectively used instead of relying largely on resource-intensive mass media (which would provide only complementary support depending on reach/acceptance) in coordination with NHEICC for guidance/consensus.
- The FCHVs and VMWs would be strategically deployed for CBT and other community level activities and would be valuable community resources in coming years strengthening health & community systems that would contribute to impact as well as sustainability.

These options are expected to generate efficiencies that can be reinvested for remaining resource gaps.

The NMSP 2014-2025 (updated version-2020) already has in-built cost-effectiveness in estimation of resource requirements, in addition to technical soundness.

Furthermore, it may be noted that technical staff with the PR at provincial level PMU provide support to malaria, TB, HIV programmes on cost sharing basis that also gains synergy and efficiency. Likewise, high-level coordination support at MoHP (at central level) is also provided through the PR for all three programmes to further strengthen three tier governance coordination in effectively implementing the GF grant and ensure future sustainability.

2.3 Matching Funds (if applicable)

This question should only be answered by applicants with designated matching funds, as indicated in the allocation letter.

Describe how the **programmatic and financial conditions**, as outlined in the allocation letter, have been met.

NA.

Section 3: Operationalization and Implementation Arrangements

To respond to the questions below, refer to the *Instructions* and an updated **Implementation Arrangement Map**[24].

a) Describe how the proposed **implementation arrangements** will ensure efficient program delivery.

The MoHP is the lead organization for policy, strategy formulation, planning and decision making at macro level. Under MoHP, and within the Department of Health Services (DoHS), the EDCD is responsible for the NMEP. The EDCD is responsible for developing national strategies and guidelines and planning, oversight, M&E and coordination of malaria elimination at all levels (in addition to control/elimination of other vector-borne diseases). The NMESC would be supported by the NMETF, and both the NMETF and the NMESC would support the Malaria TWG. The EDCD is supported by the Vector-Borne Disease Research and Training Centre (VBDRTC), which supports in entomological and epidemiological research and monitoring, and training. The provincial level responsibilities also include planning, oversight, supportive supervision, M&E, and coordination. Furthermore, coordination would be strengthened with private sector, and military and other security forces, relevant NGOs/CSOs, others, for strengthening case detection and management, IEC/BCC, research, according to the national guidelines/protocols. Coordination between the EDCD, NPHL, NHEICC, FW Dept., TB and HIV programmes and others (including UN agencies, USAID, IOM), various NGOs and migrant networks would also be critical for supporting implementation of interventions, as well as implementation research, as relevant and needed.

Save the Children International (SCI), the current Principal Recipient (PR), with five years of extensive experience in the GF grant management and implementation would continue (SCI is the PR under TB and HIV programmes as well). They manage the grant through the Program Management Unit (PMU) set up together with the EDCD. The PR, as the lead implementing entity and technical partners like the WHO provide programmatic and technical guidance and support. To ensure effective and efficient programme, this PMU consisting of a competent multi-disciplinary team of technical and programmatic experts are embedded at the EDCD and works and coordinates with EDCD staff. The PMU would support in planning, implementation, M&E of activities for malaria elimination, and provide technical support. The central PMU team would build capacities of the provincial teams, which are expected to be strengthened under the new implementation structure in the federal context to gain efficiency in program delivery. Technical staff with the PR at provincial level PMU provides support to TB/HIV programmes as well (on cost sharing basis). Likewise, high-level technical support at MoHP (at central level) is also provided through the PR for all three programmes.

In 2021 (in year 1), it is proposed that five Sub Recipients (SRs) [NGOs/CSOs] pre-selected under TB/HIV programmes would support the launch/roll out of CBT (in view of somewhat prolonged processes due to federalization and need for SOP/orientation at all levels especially local levels). The support would include, identification of FCHVs in selected sites, recruitment of the VMWs, their management and periodic performance reporting (programme & financial). The SRs would coordinate with the local levels for

[24] An updated implementation arrangement map is mandatory if the program is continuing with the same PR(s). In cases where the PR is changing, the implementation arrangement map may be submitted at the grant-making stage.

orientation of FCHVs and VMWs and supportive supervision, performance reviews with support from the SMC and the entomologist from respective provincial PMUs. From 2022, the FCHVs & VMWs (55 in number) would be entirely under the leadership of the local level (and proposed under the GF Allocation) drawing from the implementation and coordination experience. Full support would be provided by the EDCD in coordination with the PR. The SRs would hand over the responsibilities to the local level. It is expected that regular engagement and advocacy, orientation/training would capacitate the local level and ensure full commitment for the malaria elimination agenda. Scaling up of FCHVs and VMWs to 155 sites in 2022 and 255 sites in 2023 are proposed under PAAR i.e. such community resources would be scaled up to additional 200 wards by 2023. Those community cadres would also be under the local level.

Given the federalized structure that was adopted since 2018, the GoN and the GF agreed that the GF grant money would be channelled to the provincial and local levels following the federal structure in close coordination and collaboration with the EDCD; thereby brining resources closer to the local level, which would enable strengthening of program planning, implementation and monitoring. The malaria program would make use of the implementation arrangements in the provinces through provincial PMUs embedded into the Provincial Health Directorate (PHD)/MoSD in each province for effective implementation and monitoring of the activities.

The GoN has also committed to step up investment in procuring the LLIN for mass distribution, insecticides for IRS, and substantial proportion of the RDTs and microscopy diagnostics during this grant period. The government is committed to establishing an optimal procurement mechanism that is currently being explored within the framework of the Public procurement Act, 2063 (2007), whilst all procurement by the PR would be done using the GF pooled procurement mechanism.

The Nepal-CCM and oversight committees oversee effective implementation of the grant.

b) Describe the role that **community-based organizations** will play under the implementation arrangements.

Community engagement in malaria programme has been strengthened over the last few years and is ongoing. Community representatives are part of the planning and decision-making and are member in the CCM. Community systems would be further strengthened at the local level not only in ensuring their increased participation in planning and decision-making front, but also in implementation and M&E. Already, at the community level, few FCHVs and other community resources are supporting malaria services. It is proposed that FCHVs and newly proposed VMWs selected from/based in the community would support Health facilities in community based malaria services in addition to IEC/BCC in high and moderate risk wards and even receptive low risk wards, which is proposed to be scaled up in phased manner (and gradually transitioned under the GoN) [kindly refer to section 2.2]. They would support in identifying key and vulnerable populations for targeted interventions.

Under the guidance of the EDCD and in line with the role and responsibilities ascribed by the PR, eligible community-based organizations would be engaged as Sub-Recipients (SRs) and would play an important role in the implementation of the key activities under GF grant. They would work closely with the PR, and the EDCD, PHD, local levels as well as respective health facilities and the communities. They would support programme implementation, M&E including recording, reporting and coordination between the different levels of government.

In addition, the civil society organizations that are part of the CCM also play oversight role related to implementation of interventions at community level especially targeted to key and vulnerable populations.

c) Does the funding request envisage a **joint investment platform** with other institutions?

☐ Yes ☒ No

If **yes**, describe specific arrangements and modalities.

NA.

d) Describe key, **anticipated implementation risks** that might negatively affect **(i)** the delivery of the program objectives supported by the Global Fund, and/or **(ii)** the broader health system. Then, describe the mitigation measures that address these risks, and which entity would be responsible for these mitigation measures.

Key Implementation Risks	Corresponding Mitigation Measures	Entity Responsible
Financial risk: Lack of adequate and sustained funding for malaria elimination from GoN and partners, including the GF; and unsuccessful efforts in mobilizing resources (from within and outside country) commensurate with the need for malaria elimination. Also, with reduction in disease burden and no mortality, malaria is diminishing as a priority.	• Transform political commitment in terms of adequate and sustained domestic resources for malaria elimination. • Advocate for vital continued support by the GF until elimination is achieved. Strong justification for sustained GF support would be developed in collaboration with WHO and other regional stakeholders. • Advocate for funding for malaria elimination as an investment case for ending suffering and poverty and for achieving SDGS towards overall socio-economic development (to in-country corporate sector and others as well as to development partners).	EDCD, SCI, WHO, the GF and other partners
Financial risk: The GF support may fail to continue at required levels resulting in a reversal of gains made so far.	• Strong justification for the continuation of GFATM support beyond 2023 would be developed in collaboration with WHO and other Regional stakeholders.	EDCD, SCI, the GF
Financial & Fiduciary Risks: Issues relating to suboptimal financial efficiency, flow of fund, limited value for money, etc.	• Strengthen capacity at all levels through training workshop for operational planning. Central teams & provincial level would have oversight responsibility. • Close monitoring to ensure timely procurement & supply, implementation of activities. • Likewise, efforts would continue exploring efficiencies, value for money.	EDCD, SCI, Provincial Health Department (PHD), local levels
Extrinsic risk: Introduction of the federal system (decentralization process) resulting in challenges in fund flow, programme implementation at subnational level (especially local levels) and malaria elimination is not considered priority. Moreover, there is no malaria focal person at local levels.	• Programme and implementing partners would take proactive role in adjusting implementation of interventions, operations to suit federal structure and any revised roles and responsibilities of government/public staff at local levels. • Capacity building through training/re training would be carried out. • Discussion would be held further to assign malaria focal person in	MoHP, MoSD, EDCD, PHD, local levels, SCI

	province and local bodies. • Strengthen capacity of provinces on data analysis by training and on site mentoring.	
Extrinsic risk: Natural disasters (like earthquake), pandemic (like Covid 19), etc. affect timely implementation of interventions adversely impacting elimination programme. Besides, diversion of efforts and health system cadres and resources to affected areas also affect implementation as per plan elsewhere.	• Develop, adapt and implement appropriate guidelines on line with WHO and other international/national guidelines to maintain uninterrupted essential services including health care service delivery • Buffer stock would be incorporated into the procurement of key programme commodities (RDTs, antimalarials, LLINs). • Deployment reserve with local level/community level health workers/volunteers. • Community level health workers/volunteers would ensure that affected population is using the LLINs and seeking EDPT effectively. • Design and implement Catch up' plan as the crisis wanes	EDCD, PHD, Local level, SCI, WHO
Programme risk: Development and spread of operationally significant pyrethroid resistance undermining impact of LLINs and IRS.	• Close monitoring of insecticide resistance would be carried out at sentinel sites. Resulting data would be shared with WHO and technical partners. If insecticide resistance is found, its operational significance would be assessed and a suitable response would be developed as required in consultation with the WHO. • Develop and implement a plan for insecticide resistance management in accordance with WHO GPIRM – Global Plan for Insecticide Resistance Management.	EDCD, SCI, WHO
Programme risk: Development and spread of ACT resistant falciparum malaria	• Close monitoring of drug resistance status would be maintained through TES in sentinel sites and through molecular studies analyzing samples collected nationwide. Resulting data would be shared with WHO and technical partners. In the event of development of ACT resistance, a suitable response would be developed following the recommendations of WHO. • Ensure adherence to national malaria treatment guidelines both in public and private sectors.	EDCD, SCI, WHO
Programme risk: The new more stringent stratification, used for targeting LLIN delivery, moving away from blanket	• Elimination-based surveillance system would result in a rapid response to any new	EDCD, SCI, PHD, Local level, WHO

coverage, may result in sub-optimal coverage with LLINs and possible focal resurgences of malaria transmission.	transmission foci with LLIN delivery or IRS, as required. Buffer LLINs is proposed in the budget for the purpose (for active foci). • Proactive action would be taken as and when there is rise in number of cases even if the rise does not reach "outbreak threshold". Each programme aims to reduce malaria cases so something must be done if there is no reduction of cases and not wait to reach the outbreak threshold.	
Programme risk: Supervision and monitoring for measuring progress and impact may miss out regular risk assessments and mitigation.	• Supervisory visits would be comprehensive with risk-aware focus. Trainings/re-trainings would also enhance requisite comprehension and skills.	EDCD, SCI, PHD, Local level
Programme risk: Timeliness of report and poor quality of data undermine programme management and implementation	• Data collection would be streamlined (DHIS 2-HMIS, MDIS, EWARS) and the MDIS being progressively strengthened. Malaria focal persons would conduct on site data verification at all service delivery points. SMC and central M&E staff would verify data (aligning it with MDIS and DHIS 2-HMIS) on monthly basis and send prompt feedback to the local levels.	EDCD, SCI, PHD, Local level
Programme risk: Delay in procurement, inadequate inventory management impact supply and ultimately services.	• Overall PSCM is being strengthened. Special emphasis would be placed on inventory management, where weaknesses are identified through trainings, on site orientation, supportive supervision.	EDCD, SCI, PHD, Local level
Programme risk: Access to timely interventions remains critical risk for key and vulnerable populations in view of barriers and inequities although waning over time.	• Activities under all modules and interventions are designed to mitigate such scenario. This would be constantly overseen during visits. Trainings/re trainings, IEC/BCC would emphasise on removing barriers and inequities.	EDCD, SCI, PHD, Local level

Section 4: Co-Financing, Sustainability and Transition

To respond to the questions below, refer to the *Instructions*, the domestic financing section of the **allocation letter**, **the** Sustainability, Transition and Co-Financing Guidance Note**, Funding Landscape Table(s), Programmatic Gap Tables(s)**, **and a sustainability plan and/or transition work-plan**, if available[25].

4.1 Co-Financing

a) Have **co-financing commitments** for the **current** allocation period been realized?

☐ Yes ☒ No

If **yes**, attach supporting documentation demonstrating the extent to which co-financing commitments have been met.

If **no**, explain why and outline the impact of this situation on the program.

The co-financing commitment for the current allocation period could not be entirely met due to federalization and ensuing structural, administrative and financial issues. The GoN commitment to fulfill the co-financing requirement for 2018-2020 (current grant period) is submitted with this Funding Request. [However, kindly note that approved provincial and local level HR and programmatic budget are not included here]. Attempts are being made to progressively streamline the issues towards implementation of planned interventions. Efforts are also being made to capture provincial and local level investments in malaria elimination.

b) Do **co-financing commitments** for the **next** allocation period meet minimum requirements to fully access the co-financing incentive?

☒ Yes ☐ No

If details on commitments are available, attach supporting documentation demonstrating the extent to which co-financing commitments have been made.

If co-financing commitments do not meet minimum requirements, explain why.

The co-financing commitments for the next allocation period for upcoming Allocation period (2021-2023) are met. The commitments are as under: USD 3.77, 4.60, 4.73, and 4.83 million for fiscal years - 2020/21, 2021/22, 2022/23, and 2023/24, respectively (kindly refer to Table-7 for module wise details).

c) Summarize the **programmatic areas** to be supported by domestic co-financing in the next allocation period. In particular:

i. The financing of key program costs of national disease plans and/or health systems;
ii. The planned uptake of interventions currently funded by the Global Fund.

i) The following programmatic areas would be supported by domestic co-financing in the next Allocation:

- LLINs for mass distribution nationwide; LLINs for key and vulnerable populations; LLINs for contingencies; LLINs for pregnant women (ANC) [except 100% need in 2021 and 50% need in 2022]
- 50% Microscopy needs nationwide (including replacement microscope and microscopy consumables,

[25] Note that information derived from the supporting documentation provided in response to the questions below, including information on funding landscape or domestic commitments, may be made publicly available by the Global Fund.

maintenance)
- Internal QA (cross checking) of microscopy nationwide
- 40%, 50%, 60% and 70% of total RDT need in public sector in 2021, 2022, 2023 and 2024, respectively; and 30%, 40%, 50% and 60% of RDT need in private sector in 2021, 2022, 2023 and 2024, respectively
- TA for development/updating of strategy, guidelines
- Printing and dissemination of strategy, guidelines, SOPs nationwide
- Core HR in public sector health system nationwide including HR of the EDCD, PHD, health facilities
- Establishment and infrastructure of public sector health systems nationwide
- RRTs, NPHL, VBTRC staff
- Entomology teams (under malaria and kala-azar programmes)
- IRS (routine spraying in identified risk areas) under malaria and kala-azar programmes (insecticide, equipment for IRS, trainings, and spraying teams, IEC/BCC, supervision and monitoring)
- Training/retraining of health systems cadres up to local levels (paramedics – nursing cadres, laboratory staff, PSM staff, etc.)
- Non-health equipment (laptops and accessories for public sector health system nationwide and maintenance)
- Printing and dissemination of strategy, guidelines, SOPs nationwide
- Drug quality regulatory system; pharmacovigilance, etc.
- DHIS 2 based HMIS
- Various IEC/BCC, community engagement and advocacy materials and activities
- Research

Proposed GoN commitments (module wise) are presented in Table-7 below.

Table-7: GoN commitments: module wise (for FY 2020/21 – 2023-24)

Modules	FY 2020/2021	FY 2021/2022	FY 2022/2023	FY 2023/2024	Total (USD)
Case Management	1,034,328	1,044,671	1,096,905	1,129,812	4,305,716
Vector Control	1,106,423	1,880,919	1,918,538	1,956,908	6,862,789
RSSH: Health management information systems and M&E	508,929	559,822	587,813	605,448	2,262,013
Program Management	1,115,805	1,115,805	1,126,963	1,138,233	4,496,807
Total	3,765,486	4,601,218	4,730,219	4,830,401	17,927,324

Proposed GoN commitments (Table-7; Figures-8, 9, 10) for main health products, pharmaceuticals are presented in Table-8.

Table-8: GoN commitments

Health products and antimalarials	**2021**	**2022**	**2023**	**2024**
LLIN	**378108**	**141450**	**526756**	**376938**
GoN	338647	121452	526756	376938
The GF	39461	19998	0	0
RDT	**252442**	**344219**	**453186**	**476052**
GoN	125844	222011	334446	385027
The GF	126598	122208	118740	91025
MICROSCOPY	**52750**	**61104**	**74838**	**75854**

GoN	26375	30552	37419	37927
The GF	26375	30552	37419	37927

Note: 100% antimalarials is proposed to be procured with the GF Allocation

Figure-8: LLIN procurement ratio; GoN and GF

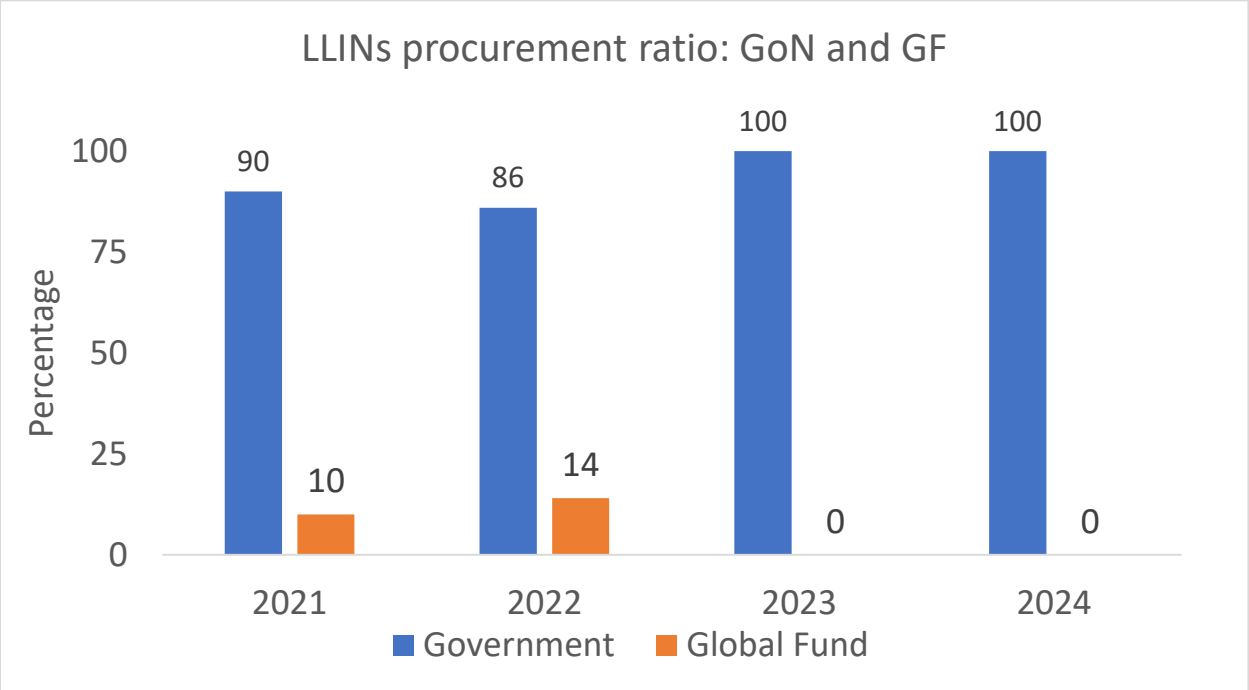


Figure-9: RDT procurement ratio; GoN and GF

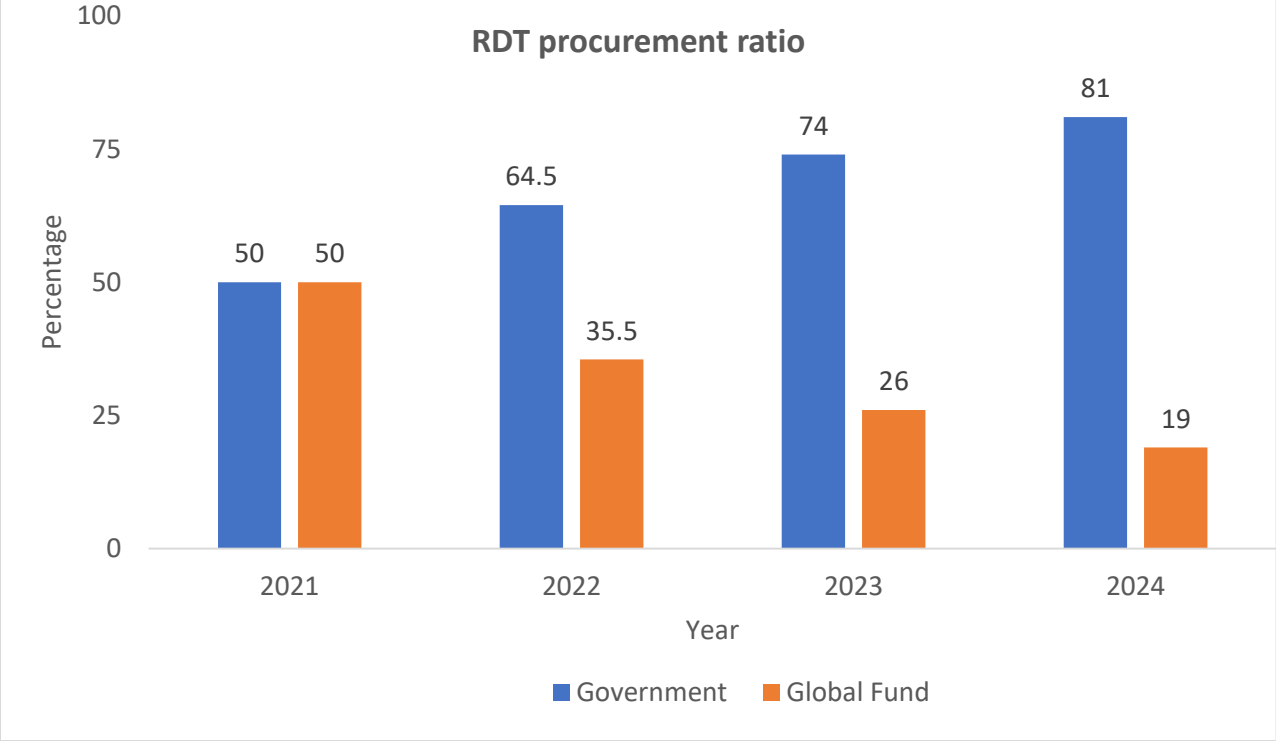
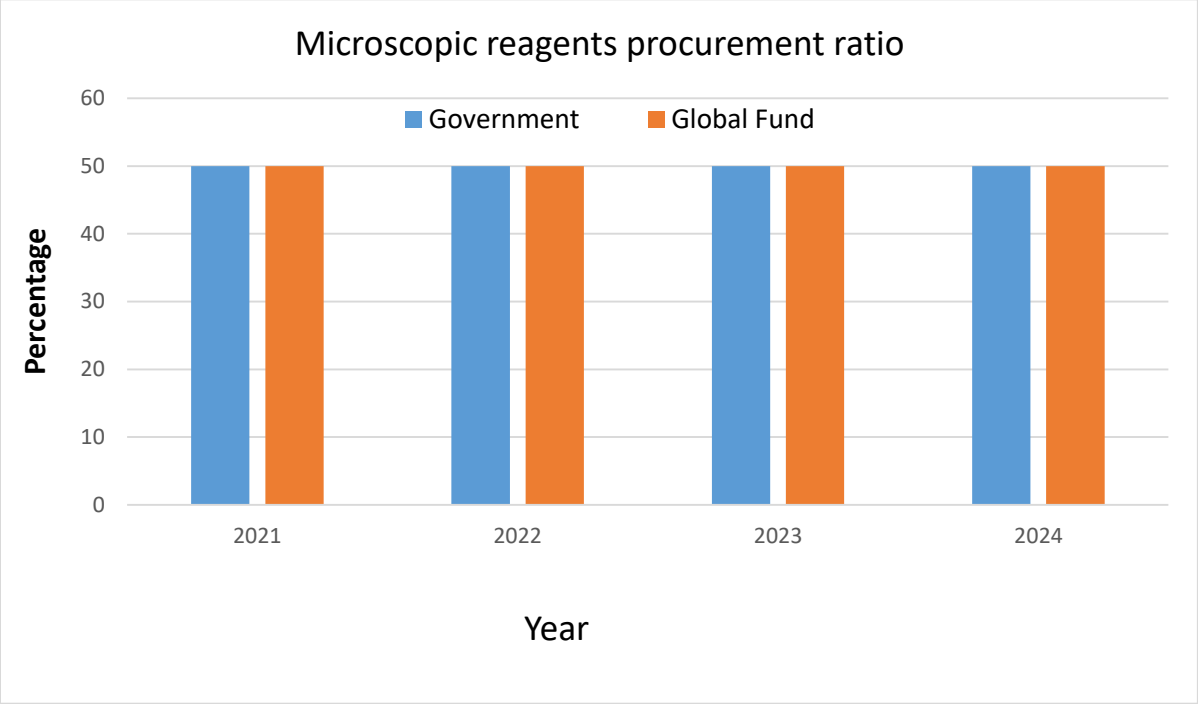


Figure-10: Microscopic reagents procurement ratio; GoN and GF



ii) Activities that are currently funded under the GF grant is planned to be covered by GoN resources: As mentioned above, most LLINs, RDTs, microscopy needs, many trainings/re-trainings of GoN cadres (with public sector health facilities), some IEC/BCC activities, most printing and dissemination of strategy, guidelines, SOPs, etc.

[However, it is important to mention that whilst most needs would be met with progressive increase in domestic resources, yet to meet the entire need as reflected in NMSP 2014-2025 (updated version-2020), exploring additional external resources from various partners (including the GF) would continue for unfunded quality demand even after considering PAAR. Continuous efforts would be made to explore meeting the resource needs with the GoN resources including but not limited to using any amount generated after efficiencies through the grant period].

d) Specify how co-financing commitments will be **tracked and reported**. If public financial management systems and/or expenditure tracking mechanisms require strengthening and/or institutionalization, indicate how this funding request will address these needs.

The MoHP and the External Development Partners (EDPs) have an agreement under the Joint Financing Arrangement, which incorporates reporting of funds from EDPs into the Transaction Accounting and Budget Control System (TABUCS). Tracking and reporting of the co-financing commitments of the GoN would be carried out through TABUCS and SUTRA described below:

- Transaction Accounting and Budget Control System (TABUCS): Monitoring of System and spending unit by the concerned units of the EDCD, MoHP.
- Sub-national Treasury Regulatory Application (SUTRA): It is a planning, budgeting and accounting software developed under the leadership of Public Expenditure and Financial Accountability (PEFA) Secretariat based on the decision of the Ministry of Finance (MoF). It is a web based system developed for facilitating and implementing a structured financial management procedure of the sub-national government based on the Unified Charts of Accounts 2017 approved by the Auditor General on Oct 18, 2017 and related OAG accounting and reporting formats.

The PMU team at the provincial level would be capacitated on use of these systems for proper tracking and accountability of the resources at all levels.

4.2 Sustainability and Transition

a) Based on the analysis in the **Funding Landscape Table(s)**, describe the funding need and anticipated funding, highlighting gaps for major program areas in the next allocation period.

Also, describe how (i) national authorities will work to secure additional funding or new sources of funding, and/or (ii) pursue efficiencies to ensure sufficient support for key interventions, particularly those currently funded by the Global Fund.

Increasing domestic resources for health, and specifically for HIV, tuberculosis and malaria, is essential to end the epidemics and strengthen the health systems that are the foundation for the disease response. The GoN plans to progressively increase its budget to support health system by approximately 15% annually.

Nepal has set the target of achieving malaria elimination by 2025. The NMSP 2014-2025 (updated version-2020) with such goal is being implemented under the aegis of the MoHP. The resource requirements for 2021-2025 (NMSP updated version-2020) are USD 36,823,226.

Currently, the funding sources for malaria elimination are as under: GoN funding and the GF funding; and the WHO (for need based technical assistance only). Funding gap for the upcoming period (FY 2021/22-2023/24) is 19% after the GoN resources and the GF Allocation amount are considered relative to the NMSP need of USD 22,640,040 for the same period (Table-9).

Table-9: Funding need and gap

Funding Needs in USD	**(Y1)**	**(Y2)**	**(Y3)**	Total in (USD)
	2021- 2022	***2022- 2023***	***2023- 2024***	
Total funding need of NMSP (2014-25)	6,986,057	7,279,782	8,374,202	22,640,040
Total domestic resources: GoN	4,601,218	4,730,219	4,830,401	14,161,839
Total external resources (non-GF)	-	-	-	-
Funding request – GF allocation	1,805,773	1,398,370	952,267	4,156,410
Total anticipated resources	6,406,991	6,128,589	5,782,668	18,318,249
Funding gap	579,066	1,151,192	2,591,533	4,321,792

Note: Years 1, 2, 3 refer for the Funding request – GF allocation refer to the following periods: 03/2021 – 06/2022, 07/2022 – 06/2023, 07/2023 – 06/2024, respectively. Years for NMSP 2014-2025 (updated version-2020) and Domestic resources refer to the following periods: 07/2021 – 06/2022, 07/2022 – 06/2023, 07/2023 – 06/2024.

The GoN/MoHP plans to transition from dependency on external funding by increasing its financial share for malaria elimination program over time. In the next 3-year budget, the purchase of majority of the LLINs, IRS, microscopy, and substantial number of RDTs would be covered by the MoHP apart from many training/retraining costs, IEC/BCC & community engagement, advocacy costs as well as technical assistance, core HR, infrastructure and equipment (including laboratory infrastructure, equipment and supplies), and disease surveillance. With this, the GoN would progressively take on key program costs, including those currently financed by the GF. Furthermore, Nepal envisages to access 20% of Nepal's allocation as a co-financing incentive, in view of additional domestic commitments targeted as per the requirements of the sustainability, transition, and co-financing.

However, the Global Fund funding has and would remain one of the key partner committing external resources for achievement of impact whilst such impact is expected to be leveraged for exploring other funding opportunities.

As the last mile is always difficult, additional investment is needed to reach malaria elimination. Hence, the

GF is also requested to positively consider funding proposed under PAAR as well (USD 1,822,000) that would support certain priority interventions and minimize the funding gap and accelerate progress towards malaria elimination in Nepal.

The GoN is committed to secure additional funding for the national malaria programme. In addition, to ensure long-term sustainability, a significant volume of core commodities and implementation resources are co-funded by the GoN. Furthermore, discussions with various Development Partners would be planned for exploring additional resources. Similar meetings with corporate sector would be held to seek their support as part of corporate social responsibility. Collectively, resource contributions from the GoN, the GF and possible other partner agencies are expected to partner in accelerating progress and successfully realizing and sustaining malaria elimination in Nepal.

b) Highlight challenges related to sustainability (see indicative list in *Instructions*). Explain how these challenges will be addressed either through this funding request or other means. If already described in the national strategy, sustainability and/or transition plan, and/or other documentation submitted with the funding request, refer to relevant sections of those documents.

After federalization of the government system in 2018, Nepal is in the process of restructuring its health system and transitioning into the Federal, Provincial and Palikas (local level) system. Following federalization, health care delivery in Nepal has been decentralized, giving more autonomy to provincial and municipal governments. The central level is responsible for policy formulation, resource mobilization, and monitoring and regulating TB services and capacity building of the provincial level. A Ministry of Social Development (MoSD) has been established to oversee the work of the newly formed seven provinces and 753 municipalities, which are responsible for delivering health services. Federalization resulted in a revised administrative structure, which has limited role for the district. While steady progress has been made in clarifying roles and responsibilities of the MoSD with regards to leadership and oversight, implementation and reporting arrangements of the three disease programs, it is at a nascent stage and needs concrete support to ensure that these new three levels structure work in sync for an efficient delivery of the programme. The federalization has also impacted supply chain, fund flow, and reporting of programmatic and logistic data.

These challenges are realized by the MoHP and following interventions and changes are proposed trough this funding request as well as actions planned by the MoHP.

Governance structure and capacity building: The MoHP is committed to full-filling the HR needs of the malaria elimination programme as per the HR plan to meet the NMSP 2014-2025 (updated version-2020) targets which are aligned with international targets and commitments. In the interim period, the PMU consisting of a competent team of technical and programmatic experts in various areas would be embedded at the EDCD to support in planning, provision of technical support, quality monitoring and oversight functions. Also, to offset the challenges presented by the federalization, for efficient fund flow and implementation, provincial PMU would be instituted in each province embedded in the PHD/MoSD, which would ensure better coordination and reporting in the provinces across three diseases, efficient use of resources, provision of impromptu local technical support where needed. This implementation structure is envisioned to transition to the provincial HR structure over the years for sustainability. In addition, the MoHP also plans to conduct O&M survey and fulfill the key positions, capacity building of health care workers, and revise staff contract policy and employment packages to give more stability to persons serving in these positions. Following the capacity assessment exercise which is ongoing, capacity building plan would be developed and implemented for capacity building of the central as well as provincial level staff.

Financial management system: Some of the challenges in financial management system such as timely fund disbursement, low burn rate, inadequate control mechanism, manual accounting system and fund recovery system would be addressed in phased manner. The MoHP plans to develop mechanisms for timely fund transfer to the service delivery points (SDPs), bringing resource closer to the grass root level that would enable proper program implementation and monitoring. This would enable SDPs to immediately start the program implementation from the first day of new fiscal cycle and help efficient delivery of

programme on time. The financial system strengthening strategies also include inclusion of required resources in the red book and its quick amendment where required, quick reprogramming of savings with necessary flexibility and use of a common GoN accounting software at all SDPs and timely reporting through the software. The MoHP is also looking at a standard fund recovery mechanism especially for donors such as the GF. MoHP has developed Sub-national Treasury Regulatory Application (SUTRA) for Provincial and Local level budget transfer and timely monitoring expenditure. At the Federal level, TABUCS has been used for funds flow and expenditure monitoring, which needs to be strengthened.

Monitoring and Evaluation: Surveillance, monitoring and evaluation have been challenges in the current system requiring actions for system restructuring and capacity building. The NMSP 2014-2025 (updated version-2020) has plans to work with provincial and local levels to establish M&E and supportive supervision for supply to the municipalities and health facilities. The embedded PMUs at the provinces would also support surveillance and supportive supervision. There are programs targeted for staff development and strengthening of M&E activities across different levels. There is also plan for enhanced data collection and reporting, completing transitioning from paper-based to electronic integrated health management system (DHIS 2-HMIS) aligned to the general health information system. The MoHP plans to ensure timely reports are collected and submitted to the EDCD at the central level on a regular basis. The ministry also plans to roll out 'One National M&E System' with proper linkage with DHIS 2-HMIS (and also linking the MDIS). They would conduct regular data quality audit and onsite data verification before finalizing and submitting the report. They plan to prepare an annual M&E plan, field visit plan, use a proper M&E checklist, and set up a proper feedback mechanism.

Procurement and Supply: Decentralization has resulted in problems with supplies of medicines and diagnostics at the Palikas and health facilities as the distribution function was transferred to the palikas from districts with limited support system. At times, this led to delays and near stock outs of necessary diagnostics and treatment. Adequately skilled personnel for managing commodities at the facility level and supportive supervision for supply management were missing. The government procurement policy procedures need to allow quick, quality procurement of services and goods. While the Logistic expert in the PMU team would support proper planning, forecasting and capacity building, the national team members related to logistics management of commodities (LLINs and RDTs) and antimalarials would oversee, support, and coordinate. The MoHP is committed to establishing an optimal procurement mechanism and options are currently being explored within the framework of the Public procurement Act, 2063 (2007). It would also set up a system for integration of procurement supply chain system through Logistics Management Division and introduce Logistic Management and Information System (LMIS) for systematic reporting and tracking of health products and commodities (for malaria as well as TB, HIV programmes). The GoN plans to assess the current PSM system and prepare a plan for smooth transition to such Division for key PSM areas.

Financial share and sustainability: The GoN/MoHP plans to transition from dependency on external funding by increasing its financial share for malaria elimination program over time. In the next 3-year's budget, the purchase of majority of the LLINs, IRS, microscopy, and substantial number of RDTs would be covered by the MoHP apart from several training/retraining costs, IEC/BCC & community engagement, advocacy costs as well as technical assistance, core HR, infrastructure and equipment (including laboratory infrastructure, equipment and supplies), and disease surveillance. The GoN plans to increase its budget to support health system by approximately 15% annually and continue to work towards sustainability as federalization systems get strengthened and fully functional.

Annex 1: Documents Checklist

Use the list below to verify the completeness of your application package.

☒	Funding Request Form
☒	Programmatic Gap Table(s)
☒	Funding Landscape Table(s)
☒	Performance Framework
☒	Budget
☒	Prioritized above allocation request (PAAR)
☒	Implementation Arrangement Map(s)[26]
☒	Essential Data Table(s) (updated)
☒	CCM Endorsement of Funding Request
☒	CCM Statement of Compliance
☒	Supporting documentation to confirm meeting co-financing requirements for current allocation period
☒	Supporting documentation for co-financing commitments for next allocation period
☐	Transition Readiness Assessment (if available)
☒	National Strategic Plans (Health Sector and Disease specific)
☒	All supporting documentation referenced in the funding request
☒	Health Product Management Tool (if applicable)
☒	List of Abbreviations and Annexes

[26] An updated implementation arrangement map is mandatory if the program is continuing with the same PR(s). In cases where the PR is changing, the implementation arrangement map may be submitted at the grant-making stage.