

**GHANA MALARIA PREVENTION,
DIAGNOSIS AND DATA PROGRAMME**
Annual Review

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Executive summary

Introduction

The Health and Education Advice and Resource Team (HEART) was contracted to undertake the first Annual Programme Review (APR) of the DFID-funded Ghana Malaria Prevention, Diagnosis and Data Programme. This review was undertaken between 24 July and 20 August 2014 by a team of two external consultants. The Review Terms of Reference (TOR) posed questions relating to progress in implementing the project since it commenced in August 2013. The review was carried out primarily through a secondary analysis of project reports and other relevant documents, supplemented by key stakeholder interviews both in Accra and during a field trip to Central Region.

Findings

Background

The project, valued at £18.8 million, commenced in August 2013 for three years and its components are being implemented by a number of different agencies:

	Output area	Implementing body
Prevention	Procurement of LLIN for routine distribution under the continuous distribution strategy	NMCP
	Social marketing of LLIN	ESMI
	SMC trial in Northern Region	NMCP
Diagnosis	Provision of RDTs for the private health sector	NMCP
BCC	To increase use of LLINs	UNICEF
	To increase uptake of RDTs	HFFG
Improved data	Malaria sentinel sites	NMCP
	Recruitment of an epidemiologist	NMCP
Enhance financing	Support to NMCP resource mobilisation officer	NMCP

Notes: BCC = Behaviour Change Communications
 HFFG = Hope for Future Generations
 NMCP = National Malaria Control Programme
 SMC = Seasonal Malaria Chemoprevention
 ESMI – e-Enhanced Social Marketing Initiative
 LLIN = Long Lasting Insecticidal Nets
 RDT – Rapid Diagnostic Tests for Malaria
 UNICEF – United Nations Children’s Fund

The major procurements of malaria commodities through the Ministry of Health Procurement Unit were instituted shortly after inception and, with quality control undertaken by Crown Agents, 1.1 million LLIN, 3 million RDTs and 0.5 million SMC drugs were procured with no significant problems. The commodities were available in Ghana in early 2014.

Memoranda of Understanding (MOUs) for the implementation of the non-procurement components were signed over the period November 2013 to February 2014, and so most components had only been in implementation for around six months at the time of this review. In view of the late start to several of the components, a number of first-year milestones in the logframe were too optimistic, given the many preparatory activities needed before implementation could commence.

Impact¹

Reported mortality attributed due to malaria, for both the under-five population and the general population – two of the project impact indicators – fell in both 2012 and 2013 from the programme’s baseline figures. If this trend continues, these programme milestones and targets should be achieved by the end of the programme.

The third impact indicator, ‘the proportion of children under five admitted with fever attributed to malaria’, is not behaving in the anticipated way and is rising. This is likely to be a result of external complicating factors. It is recommended that this indicator be reviewed.

¹ The programme contributes to Ghana’s overall malaria programme and so impact cannot be attributed solely to it.

Outcome

Information is not available to measure progress against the two programme indicators related to the use of bed nets. This will need to await the findings of the 2014 Demographic and Health Survey (DHS) or other studies.

A further indicator, 'the proportion of children under five with fever tested by RDT or laboratory for malaria', is not routinely reported by the NMCP, although it is understood that the District Health Management Information System (DHMIS) can produce this information. DFID should request that the NMCP provide this information if it is available through the DHMIS.

A fourth indicator, the proportion of outpatient malaria cases among the general population confirmed by RDTs or laboratory', has recorded a significant increase and by 2013 had exceeded the programme's 2014 milestone.

The final indicator, 'The number of confirmed outpatient positive cases', is also performing in an unexpected way, increasing rather than decreasing. This is because it is potentially measuring two things: (i) the number of people attending outpatient departments (OPDs) with fever (which other evidence would suggest is increasing); and (ii) the proportion of those attending who are being tested (which is also rising). Thus, unless the overall number of people attending with fever falls, and with the RDT programme performing well, results from this indicator will rise rather than fall. It is recommended that this indicator should be reviewed.

Output 1: Target – 2.5 million LLINs delivered to people across the country.

This target is to be achieved through two channels: (i) the Ghana Health Service (GHS) routine distribution system (1.3 million LLINs); and (ii) a large-scale trial of an e-voucher and social marketing programme (1.2 million LLINs).

The 1.1 million LLINs procured by the programme were used under the continuous distribution strategy to supply nets to targeted primary school children in early 2014. The NMCP reported that 1.3 million nets were delivered to primary schools and thus this milestone was achieved.

Funds for a further procurement of 200,000 LLINs in 2014 have been reprogrammed to help achieve Output 2.

The social marketing trial, ESMI, has been delayed by the need to provide additional guarantees against fraud (following the uncovering of fraud in a similar programme in another DFID priority country).

A review of the predecessor small-scale trial of the e-marketing initiative indicated that the proposed mechanisms for ESMI are feasible in Ghana, but the review expressed concern about success in the context of limited involvement in the trial by NMCP and limited enthusiasm by the private sector to enter the bed net market when the NMCP policy is for a continuation of free bed net distributions. The project is not yet far enough advanced to assess whether these concerns are being addressed.

DFID should continue to advocate for a change in the Government of Ghana's (GoG) policy on free net distributions, limiting their distribution to priority groups, in order to encourage the re-entry of the private sector into the Ghana net market.

Output 2: Target – four doses of SMC per year delivered to 556,000 children in Northern Region

The SMC drugs have been successfully procured and have now been registered by the Ghana Food and Drug Authority. However, funds for the implementation of the trial were to come from other sources that failed to materialise. DFID agreed to re-programme funds from Output 1 to enable the trial to be implemented. However, bureaucratic delays within the GoG mean that the funds have not yet been transferred to the NMCP. All possible pressure should be brought to bear on the government financial systems, by DFID and NMCP, to try to ensure the speedy availability of DFID funds.

Timing is critical for this trial as the drugs have to be administered during the rainy season. Unless the funds are made available very soon it will be too late to undertake the first year of the trial.

Output 3: Target – five malaria sentinel sites established

The programme was to support the development of five sentinel sites out of a total of 26. The other 21 are being funded from Global Fund (GF) resources.

There has been a delay within the government finance systems, such that the funds took five months to reach the NMCP. However, activities have proceeded using GF money, including in the DFID-designated sites. It is reported that at least two DFID-designated sites are likely to be operational by the end of the year.

In a change to the Business Case and at the request of NMCP, it was agreed that the Technical Assistance (TA) component of the programme should be to recruit an epidemiologist rather than a BCC/social marketing specialist. The epidemiologist is currently being recruited and is likely to be in post before the end of 2014.

Output 4: Target – 2.4 million RDTs distributed to private health facilities

Three million RDTs were successfully procured for the GHS, with a further procurement of 2 million RDTs underway this year. The intended target for some of the DFID RDTs are health facilities in the private-for-profit sector (hospitals, clinics, pharmacies and licensed chemical sellers). Arrangements have been made with these institutions' umbrella organisations to distribute the RDTs through them.

600,000 RDTs are reported to have been delivered to the hospitals/clinics and pharmacies' associations. Reporting of on-distribution to, and use by, end users is not yet available. While there are no known concerns with this, DFID should investigate the flows of RDTs to the private sector and advocate for the sector to report on use through the appropriate channels.

Some concerns were expressed to the review team about some of the contents of the DFID-procured RDTs. The NMCP should review the content and performance of the RDTs and, if necessary, the specifications for future procurements should be adjusted to ensure a better quality product.

Output 5: Target – Reach out to 5 million people with information on the use of bed nets

UNICEF is implementing this component, including incorporating relevant net use messages in their Communication for Development (C4D) Programme. Activities have commenced with a review of the NMCP BCC strategy, which has been completed, although the final strategy document is awaited.

Other activities have included capacity building in interpersonal communications for various partners and the development of TV and radio programmes and drama productions.

UNICEF report reaching approximately 86,000 people against a 2014 target of 3 million, which was an optimistic first-year target.

Output 6: Target – Reach out to 0.5 million health workers and 12 million health care seekers with information on the use of RDTs

A consortium of NGOs, led by HFFG, is implementing activities in around 10 districts in each of five regions (Upper East, Upper West, Western, Brong Ahafo and Central regions) to promote the three T's approach (Test, Treat and Track) for RDTs among health workers and to encourage health seekers to demand testing for malaria before treatment.

Various preparatory activities have been undertaken and work commenced at district level. HFFG reports having reached nearly 1,500 health workers of the 2014 milestone of 50,000 and 254,000 health seekers of the 2014 milestone of 3 million. These were optimistic milestones for the first year of a programme.

There appears to be a lack of coordination between the implementers of this component and the NMCP and UNICEF BCC component. DFID should promote discussions between the three parties to facilitate the development of mechanisms to promote coordination between the two BCC components and the development of synergies between them.

Output 7: Change GoG's funding modalities from donor financing to self-financing

The funds to support the NMCP resource mobilisation officer to achieve this were delayed through the government financial systems, meaning the planned activities (development of a resource mobilisation plan, links with the private sector, and capacity development training/workplace attachments) have not yet started.

There is uncertainty as to the source of the logframe baseline figure, which does not accord with the figure produced in the National Health Accounts (NHA) or the NMCP Strategic Plan. It is recommended that this indicator is reviewed and the NHA used as the source for measuring this output.

Reporting

While still early in the project, some project partners need to be reminded to adhere to their agreements to provide quarterly progress and financial reports (UNICEF: six monthly). The reporting partners should agree report formats

with DFID to ensure that progress against milestones can be easily monitored and financial reports contain information in a form that enables value for money assessments to take place.

Value for money

The cost drivers identified in the programme Business Case were the costs of TA, of travel, and of the procurement of commodities.

The TA to be recruited by NMCP was originally conceived as being recruited internationally. The post is under recruitment in Ghana and consequently employment costs are likely to be much lower, therefore providing better value for money than was anticipated in the Business Case.

There is, as yet, inadequate information to assess the cost of TA being provided through the other implementing partners.

Similarly, inadequate information is available for partner finance reports to estimate the cost of travel. However, it is hard to see how this might be assessed without imposing very onerous reporting of travel requirements on the partners.

The cost of procuring both LLINs and RDTs was at or below the benchmark figures available through the GF. Consequently, the commodity procurement is likely to have been achieved at greater value for money than was anticipated in the Business Case.

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List of abbreviations

ANC	Antenatal Care
APR	Annual Programme Review
BCC	Behaviour Change Communications
BGMH	Baiden Ghartey Memorial Hospital
C4D	Communications for Development
CD	Community Development
CHAG	Christian Health Association of Ghana
CMS	Central Medical Stores
CSO	Civil Society Organisation
CWC	Child Welfare Clinic
DFID	Department for International Development
DHMIS	District Health Management Information System
DHS	Demographic and Health Survey
ESMI	e-Enhanced Social Marketing Initiative
GF	Global Fund to Fight AIDS, Tuberculosis and Malaria
GHS	Ghana Health Service
GoG	Government of Ghana
HEART	Health and Education Advice and Resource Team
HFFG	Hope for Future Generations (partner CSO)
ISRAD	Institute of Social Research & Development (partner CSO)
ITN	Insecticide Treated Net
JHU	Johns Hopkins University
LLIN	Long Lasting Insecticidal Net
MDGs	Millennium Development Goals
MEDA	Mennonite Economic Development Assistance
MICS	Multiple Indicator Cluster Survey
MoH	Ministry of Health
MOU	Memorandum of Understanding

NHA	National Health Accounts
NMCP	National Malaria Control Programme
OPD	Outpatient Department
RCH	Routine Child Health
RDT	Rapid Diagnostic Test
SMC	Seasonal Malaria Chemoprevention
TA	Technical Assistance
TOR	Terms of Reference
UNICEF	United Nations Children's Fund
USAID	US Agency for International Development
US\$	United States Dollar
WHO	World Health Organization
YOUDRIC	Youth Development, Research & Innovation Centre (partner CSO)

1 Introduction, background and methodology

1.1 Introduction

Malaria continues to be a major cause of poverty and low productivity in Ghana. In 2013, the disease accounted for around 44% of all OPD attendances and 59% of admissions to hospital of children under five years. Eleven percent of all deaths and 22% of deaths of children under the age of five years, reported through the GHS DHMIS, were as a result of malaria. However, Ghana has demonstrated success in reducing the burden of malaria in the country, with a steady fall in the number of deaths attributed to malaria since 2009. Malaria occurs throughout Ghana all year round and affects people of all ages in the country. Tackling malaria is part of the sixth Millennium Development Goal (MDG), which includes the target: to have halted by 2015 and begun to reverse the incidence of malaria and other major diseases.²

In August 2013, the DFID-supported Ghana Malaria Prevention, Diagnosis and Data Programme was initiated with the goal of assisting Ghana to reduce mortality and morbidity due to malaria in all age groups in Ghana. The programme was scheduled to last for three years, with up to £18.8 million of funding from DFID and activities designed in four areas of intervention: prevention, diagnosis, behavioural change and data.

On **prevention**, the project was to provide LLINs to the NMCP through the Ministry of Health (MoH) for distribution through the continuous distribution system to pregnant women, children under five and infant school children. In parallel, the project was to work with a consortium, led by Johns Hopkins University (JHU), to undertake a large-scale pilot of ESMI to carry out social marketing of bed nets through the private sector using an e-coupon system. Another element was for a region-wide SMC trial. This component was to test the effectiveness of providing prophylactic drugs to children under five during the malaria season in the Northern Region using community health workers, to help decide whether to offer such preventative care across Ghana.

The support for **diagnosis** was to procure RDTs for malaria to be supplied to private health facilities (hospitals, clinics, pharmacies and licensed chemical sellers) through the NMCP to enable quick and highly accurate tests for malaria to be carried out without laboratories or other equipment.

The assistance for prevention and diagnosis was to be bolstered by a programme of **behavioural change communication**, implemented by UNICEF to establish a 'net culture' and a consortium of civil society organisations (CSOs) led by HFFG to promote testing before treatment of malaria.

On **data and evidence**, the project planned to support the NMCP to establish five malaria sentinel sites to generate credible data. These sentinel sites are intended to provide a clearer picture of malaria prevalence and trends, particularly in rural areas, and help to inform decisions by the government. The NMCP was to be supported to recruit an epidemiologist and also build the capacity of the resource mobilisation and private sector coordinator.

The programme is expected to result in the reduction in malaria-related morbidity and mortality for all age groups in Ghana and will directly contribute to progress in attaining MDGs 4 (reduction in child mortality) and 6 (reduction in malaria) in Ghana. Contributions to MDGs 5 (maternal mortality) and 1 (poverty reduction) are also anticipated as a result of reducing the impact of malaria on pregnant women and the poor.

1.2 Background

In August 2014, HEART was contracted to provide two consultants to undertake the APR of the Ghana Malaria Prevention, Diagnosis and Data Programme for the year ending August 2014, in order to provide an independent assessment of the project's progress against stated objectives and to make any necessary recommendations in order to improve project performance. The full TOR for this APR are shown in Annex A.

The review took place over the period 24 July–20 August 2014. The review commenced with the forwarding, and review, of a number of key project documents in advance of the field work in Ghana. One of the consultants undertook a field visit to Ghana's Central Region over the period 5–7 August while the substantive evaluation took place in Ghana over the period 11–20 August. The review team presented and discussed their draft findings at a meeting with DFID at the end of the mission.

1.3 Methodology

The APR was conducted primarily through a secondary analysis of relevant programme documents, GoG documents and others identified by the review team and DFID as part of the assignment. The documents reviewed are listed in Annex B1. Based on an initial reading of these documents, the team prepared interview guides for

² <http://www.indexmundi.com/ghana/millennium-development-goals.html>

use with key stakeholders interviewed during the review. The stakeholders¹ interviewed, from within the GHS and other partners, are listed in Annex B2.³

The field visit to Central Region, as specified in the TOR, was undertaken by one of the consultants⁴ between 5 and 7 August 2014 and a field trip report is to be found in Annex B3. The findings of the field trip informed the subsequent stakeholder discussions in Accra. On arrival in Accra, the team was briefed by the DFID Health Team in order to clarify points of uncertainty in the TOR and to ensure a mutual understanding of the task in hand. The agreed programme of meetings was then undertaken.

The review team has prepared this draft report for circulation, by DFID, to the project stakeholders for their comments, which will be considered by the review team. Where appropriate, the draft evaluation report will be adjusted to produce a final evaluation report that takes account of substantive comments.

³ The review team was unfortunately unable to meet with Dr Constance Bart-Plange, the Programme Manager on NACP, as the review coincided with the preparation of a Concept Note for presentation to the GF.

⁴ Martha Osei.

2 Findings

2.1 Project relevance

Activities to prevent and treat malaria in Ghana have been governed by a series of national strategic plans for malaria prepared by the NMCP and partners. These have covered the periods 2000–2010, 2008–2015 and 2014–2018. Following an in-depth programme review in 2013, the current plan was prepared. In relation to the DFID project activities, the new strategic plan indicates that:

- One of the strategies for malaria prevention is the continuous distribution of LLINs to antenatal women, children under five attending Ante Natal Care (ANC), and children attending primary school.
- SMC will be implemented in phases in the northern part of the country beginning with the Upper West Region, with recommended antimalarials administered at no cost to the clients.
- The NMCP will ensure universal access (100%) to malaria testing (RDT, microscopy) of suspected cases at all public and private health facilities and at community level.
- Targets for expanding BCC to improve knowledge about malaria (causes, prevention, recognition, treatment) and uptake (use of LLINs, seeking care, testing for proper diagnosis) will be defined.
- The NMCP will establish 26 sentinel sites for monitoring malaria parasite prevalence and other indicators.
- The NMCP will strengthen its capacity for both epidemiological and entomological malaria surveillance.

Thus, almost all activities included in the DFID Malaria project are clear GoG policy priorities for malaria prevention, diagnosis and treatment. The one exception to this is in relation to the social marketing component, of which there is no explicit mention, although there is recognition of the need to involve the private sector more. However, the NMCP policy priority, with the objective of obtaining universal coverage of net ownership and increasing net usage, defines three strategies:

- Free mass insecticide treated net (ITN)/LLIN distribution campaigns, particularly in the rural areas and poorly resourced urban areas of the country.
- Routine distribution through ANC/child welfare clinics/schools targeting pregnant women, children under five years and school children.
- Free or subsidised nets through NGO programmes and work places.

The NMCP recognises the challenge of sustaining the costs of a free net distribution and the ESMI component clearly addresses this concern. However, in the context of a policy priority to continue with the free distribution of bed nets, it may be difficult to convince the private sector to return to the bed net market in a significant way.

It is recommended that DFID should continue to advocate for a change in GoG policy on free net distributions, limiting their distribution to priority groups that will encourage the re-entry of the private sector into the Ghana net market.

2.2 Project progress

A number of changes have been made to the original project logframe since implementation started. These are discussed in the relevant sections below, which look at each of the project impact and outcome indicators followed by a review of each of the seven project outputs.

2.2.1 Outcome and impact

The timing of the Annual Review, in August, allows only a partial assessment of performance as NMCP data is compiled on the basis of the calendar year. Table 1 presents the available data for the project impact and outcome indicators for the full year 2013 and for January to June 2014. The 2014 half-year report does not cover most of the peak malaria season in Ghana and one might expect figures for the second half of 2014 to be higher. Information on bed net use is not reported on by the NMCP and is sourced from national surveys, either the DHS or the Multiple Indicator Cluster Survey (MICS). A DHS is planned for later in 2014. Thus, there is no recent information for two outcome indicators. A further indicator – the proportion of children with fever tested by RDT or laboratory for malaria – is not routinely reported in the NMCP reports.

Table 1: Project impact and outcome indicators, baselines and achievements

Impact indicators	Baseline (2012)	Milestone (2014)	Achievement (2013)	Achievement (2014 – half year)
1. Proportion of children under 5 admissions with fever attributed to malaria	38.8%	34%	59%	56.4%
2. No. of malaria deaths in children under 5	1,129	1,016	1,051	500
3. Number of malaria-specific deaths among the general population	2,815	2,745	2,503	751
Outcome indicators				
1. No. of outpatients' confirmed positive malaria cases	1,413,701	1,343,016	1,549,344	1,311,731
2. Proportion of children under 5 with fever tested by RDT or laboratory for malaria	41.9%	55%	Not reported	Not reported
3. Proportion of outpatient malaria cases among the general population confirmed by RDTs or laboratory	9.3%	15%	48%	1.312/2.972 = 44%
4. Percentage of children under 5 who slept under LLIN the previous night	54%	65%	n.a.	n.a.
5. percentage of pregnant women who slept under LLINs the previous night	47.7%	60%	n.a.	n.a.

Sources: 2013 Annual Report of the NMCP (January 2014); 2014 NMCP Half-Year Report (Jan – June 2014)

Reported deaths due to malaria fell between 2012 and 2013 but, as the 2014 results for the year to date are not for the peak season, it is too early to say that the trend will continue throughout 2014.

The figures for the impact indicator 'Proportion of children under five admissions with fever attributed to malaria' are harder to interpret. The following table shows the number of children under five who were admitted during each year with a diagnosis of malaria and the total these children were as a proportion of all children under five admitted.

Table 2: Children admitted with malaria (2011–2014)

	2011	2012	2013	2014 (half year)
Children under five, malaria cases admitted	129,110	177,836	191,054	42,768
Percentage of admissions of children under five	37.6%	63.3%	59.0%	56.4%

Sources: 2011, 2012 and 2013 Annual Report of the NMCP; NMCP Half-Year Report (Jan – June 2014)

There appears to have been a significant rise in the number of children admitted with malaria between 2011 and 2013. There could be a number of explanations for this:

- Increased attendance at health facilities for malaria sufferers as a result of increased consistent community education, improved access due to the spread of the Ghana Health Insurance Scheme, or increased confidence in services.
- Admission to the wards of more malaria cases, rather than treatment in OPDs, possibly as a result of increased use of RDT.⁵
- Improvements in the DHMIS, which is capturing more malaria admissions.
- A real increase in the number of severe cases of malaria requiring admission.

Further investigation will be required to understand the real reasons behind this rise.

Interestingly, the proportion of children admitted with malaria also rose significantly between 2011 and 2012 and remained high in 2013, while 2014 may be continuing that trend. The project indicator is thus indicating an increase as opposed to the expected fall. Presumably, it was expected to measure a fall in malaria attendance and admission as a result of a fall in overall malaria prevalence but is in fact measuring a rise in attendance/admission as a result of a number of possible external factors.

In regard to the **outcome indicators**, of which data for only two are available, there has been a significant increase in the 'Proportion of outpatient malaria cases among the general population confirmed by RDTs or laboratory',

⁵ Possibly as a result of 'gaming' the insurance system as, it is understood, that the reimbursement for malaria cases admitted to the wards is greater than for cases treated in OPDs.

rising from the baseline of 9% being confirmed in 2012 to 48% in 2013 and exceeding the 2014 milestone. The trend seems to be continuing so far in 2014. The increase in the number of malaria cases being tested (in the lab or by RDT) may explain the increase in the second indicator, i.e. the 'Number of outpatient confirmed positive malaria cases', which rose from 1.4 million in 2012 to 1.5 million in 2013. If there is no significant fall in the number of malaria cases attending for treatment and more of these cases are confirmed through testing, this indicator will rise, although the project assumption is that the indicator will show a falling trend.

It is recommended that DFID reviews, by October 2014, the logframe in relation to three indicators:

- **Impact indicator 3: 'The proportion of children under five admitted with fever attributed to malaria' is not behaving in the anticipated way and is rising, likely because of external complicating factors.**
- **Outcome indicator 1: 'The number of confirmed outpatient positive malaria cases' is increasing rather than decreasing. This is because it is potentially measuring two things: (i) the number of people attending OPDs with fever (which other evidence would suggest is increasing); and (ii) the proportion of those attending who are being tested (which is also rising).**
- **Outcome indicator 2: 'The proportion of children under five with fever tested by RDT or laboratory for malaria' is not routinely reported by the NMCP. It is understood that the DHMIS can produce this information; DFID should request that the NMCP provide this information if it is available through the DHMIS.**

2.2.2 Progress towards milestones

Output 1: Target – 2.5 million LLINs delivered to people across the country

Indicator	Milestone (2014)	Achievement July 2014	Source
1.1 No. of LLINs delivered to people through social marketing	200,000	0	ESMI project reports
1.2 No. of LLINs delivered to people via NMCP routine distribution	1.1 million	1.1 million	NMCP half yearly report

Delivery of LLINs through social marketing: The grant agreement between DFID and JHU⁶ for the implementation of ESMI only became effective from 1 January 2014 and thus has only been under implementation for seven months at the time of the APR.

During this time it emerged that serious fraud had been uncovered in a similar project in another DFID priority country that one of the project consortium members (MENA) was implementing. The UK National Audit Office was involved in investigating this, which resulted in the request for additional safeguards to be defined for the Ghana ESMI. These were successfully defined and agreed with DFID but this process resulted in some further delays to the implementation of the component.

A review of a smaller-scale precursor trial in Ghana found that the proposed ESMI implementation mechanisms were feasible. However, the review also found that:

- The numbers of nets distributed was low due to the continued free distributions.
- There was a need for stronger advocacy with the private sector.
- There was very limited buy-in to the concept by the NMCP.
- There was a need for a platform for dialogue between NMCP and the private sector.

Preparatory activities are continuing, but it is not yet clear how ESMI is addressing the review's concerns. However, it is clear that the component requires a complex series of activities involving multiple actors in the private sector as well as the further development of the mobile phone based e-voucher system that will enable purchasers to buy subsidised nets from private net sellers. Thus, preparatory steps need to be undertaken with care to enhance the potential for future success. It seems unlikely that the 2014 milestone will be achieved by the end of the year.

Delivery of LLIN through routine distribution systems: The first DFID-funded LLINs were procured using MoH procurement systems, with quality control for the process provided by Crown Agents. The procurement was successfully undertaken, resulting in delivery to Ghana a little later than had been anticipated, in January 2014. Given the various steps that constitute the GoG procurement process and that this was their first experience of a major LLIN procurement, the time taken does not seem unreasonable.

⁶ JHU is the lead partner in a consortium consisting of JHU, the Malaria Consortium and Mennonite Economic Development Associates (MEDA).

The LLINs arrived at an opportune time with a temporary shortage of nets in the country, as a result of a delay in the arrival of some USAID-funded nets that had been earmarked for distribution to primary schools in the first quarter of 2014. The DFID nets were immediately allocated for this distribution as part of the routine distribution. The NMCP half-year report (January–June 2014) states that 1.3 million⁷ LLINs were distributed to 21,046 primary schools, both public and private.

The project design indicates that a further procurement of 200,000 LLIN was to be undertaken in 2014. However, at the request of the NMCP, the funds for this were reprogrammed for activities in Output 2. **The logframe will need to be adjusted to reflect this re-programming.**

Output 2: Target – Deliver four doses of SMC per year to 556,000 children in Northern Region

Indicator	Milestone 1 (2014)	Achievement July 2014	Source
2.1 No. of children given four doses of SMC per year in Northern Region	556,000	0	NMCP project report

The combination drugs to be used in the SMC trial were procured through GHS tender, with quality control provided by Crown Agents. They were supplied by a Ghanaian manufacturer and are now available in the Central Medical Store (CMS). The registration of this drug combination, new to Ghana, was delayed as the Ghana Food and Drug Authority undertook the necessary testing to allow its registration for use in Ghana. Registration has just been received, in mid-August 2014, thus permitting their use in the country.

It had initially been anticipated that the funds for the implementation of this trial distribution in Northern Region would be available from other sources, but that did not happen and DFID were requested to provide the funds for the implementation to take place. In view of the fact that the drugs had already been procured, DFID agreed to re-programme funds (from the purchase of a second tranche of LLIN). However, as the MOU for this was only signed in August 2014 and, at the time of this review, no request has been received by DFID for the release of funds, implementation has yet to start. In addition, there is a danger that the release of funds, once received by the GoG, will nonetheless be delayed in reaching the NMCP (see Output 3). This activity is time bound, with administration to all eligible children to take place in four monthly instalments during the rainy season (i.e. the peak period of malaria transmission). Unless implementation starts in the very near future, it will be too late to carry out the 2014 round of this component.

Another similar trial is scheduled for Upper West Region, funded by the GF. This trial, whose initial planning and training stages are complete, is itself hampered by a lack of the drugs, which have yet to be delivered into Ghana. It is possible that the DFID-funded drugs could be used to enable the GF-sponsored trial to go ahead in Upper West. However, if this were to take place it would result in the further problem of how to deal with the funds requested and agreed from DFID, although not yet released, for the Northern Region trial. **The NMCP should ensure that, as soon as possible, the appropriate authorities make the formal request to DFID to release the funds. DFID should expedite the request as quickly as possible after receipt. Moreover, in order to prevent delays similar to those experienced by other projects in funds being transferred through the GoG system to the NMCP, pressure should be placed on the MoH and GHS to ensure the speedy transfer of the funds.**

If this sorry history of delays continues such that it looks as though the funds will not be available in time to enable the Northern Region trial to proceed this year, it is suggested that the principal stakeholders (NMCP, MoH, GHS, DFID and GF) meet to see if there are both technical and bureaucratic solutions to this impasse to enable at least one regional trial to proceed this year.

Output 3: Target – Establish five malaria sentinel sites in selected health facilities

Indicator	Baseline	Milestone 1 (2014)	Achievement July 2014	Source
3.1 No. of functional malaria sentinel sites established		2	0, 2 likely by end of 2014	NMCP project report

The MOU between DFID and GoG to implement two activities in this component was not signed until February 2014, six months after the start of the project. A further delay occurred when the time taken to release the funds to the NMCP was lengthy. DFID issued the funds to the MoH, which were then transferred via the GHS accounts to the NMCP, a process that took five months. This was apparently a result of the necessary bureaucratic process being lengthy and rigorous but is in contravention to the MOU, which stipulates that the NMCP should receive the

⁷ Nets from a variety of sources are pooled for use in the continuous distribution and so the additional 200,000 nets distributed had been supplied by other donors.

funds within one month of receipt by the MoH. This has contributed to a delay to the implementation of the component.

Malaria sentinel sites: The DFID funds, intended to support the development of five sentinel sites (two in Greater Accra and one each in Ashanti, Upper West and Western regions), supplement funds from the GF that will be used to develop a further 21 sentinel sites in various regions. Having selected the sites, implementation involves training of staff, the development of procedures and reporting processes and the procurement of the necessary equipment and consumables. The intention was for all the sites, both DFID and GF funded, to be developed simultaneously rather than in successive waves over time as had been envisaged in the project Business Case and logframe.

The NMCP were able to use the available GF funds to get the development process started in the DFID-designated sentinel sites in advance of the DFID funds being received, with staff training and orientation having taken place. None of the designated DFID sentinel sites are yet producing data for malaria monitoring, although NMCP is confident that at least two will be fully operational by the end of 2014.

Recruitment of an epidemiologist for the NMCP: This reflects a change, at the request of the NMCP, in the focus for TA outlined in the project Business Case. The Business Case argued for TA to assist in policy-making in areas such as social marketing and behaviour change interventions. The epidemiologist will be recruited to improve and strengthen the overall malaria information system and will assist in policy-making in more technical areas of malaria control and monitoring. The epidemiologist is currently being recruited, with the closing date for applications being mid-August 2014. The appointment will be made using the agreed salary structure relating to staff employed under the GF, with the appointed epidemiologist in post from October 2014.

Output 4: Target – Distribute 2.4 million RDTs to private health facilities

Indicator	Baseline	Milestone 1 (2014)	Achievement July 2014	Source
4.1 No. of RDTs delivered to private health facilities		800,000	600,000 RDTs delivered to private sector umbrella organisations	NMCP half yearly report

Two million RDT kits were procured through the MoH Procurement Unit, with quality control by Crown Agents, and arrived in Ghana in 2013. A further 3 million are under procurement and expected to arrive in Ghana in September 2014. The field visit revealed a number of quality issues with some of the RDTs received, as the alcohol pad is often dried up and there is a need to include cotton pads, the dilutant had dried out in a number of the kits and the kits are difficult to use with the extreme accuracy required.

The intended recipients of the DFID-funded RDTs are private hospitals and clinics, pharmacies and licensed chemical sellers. The private-not-for-profit health facilities (e.g. Christian Health Association of Ghana (CHAG)) have access to RDTs through the routine public health medicines distribution system and are not expected to receive DFID-funded RDTs. Thus, a separate system has been established with distribution directly from the CMS to umbrella organisations for each of the recipient groups, the private doctors, the private pharmacies and the private chemical sellers associations. GF and USAID funds have been used to provide training in the management of the RDTs to the umbrella organisations. Training for the chemical sellers has only just happened and so, to date, only private hospitals, clinics and pharmacies have received stocks of RDTs. The NMCP half-year report states that private clinics received 280,000 and pharmacies 320,000 units in the first half of the year (a total of 600,000 units).

There is currently no information available detailing the despatch of RDTs from the umbrella organisations to individual clinics and pharmacies. Recipient clinics and pharmacies must report their usage of RDTs to both the DHMIS and directly to the NMCP, but no returns are yet available. It is understood that there is a general reluctance by the private sector to provide activity information to the GHS health information system but it is not clear whether this lack of information on private sector use is due to this reason or to time lags in reporting.

The performance and content of the DFID-procured RDTs should be reviewed and, if necessary, the specifications for future procurements should be adjusted to ensure a better quality product. While RDTs are reported to have been delivered to the hospitals/clinics and pharmacies' associations, reporting of on-distribution to, and use by, end users is not yet available. While there are no known concerns with this, DFID should investigate the flows of RDTs to the private sector and advocate for the sector to report on use through the appropriate channels.

The modality for the procurement of the second consignment of 3 million RDTs has been changed from a process to be managed by the MoH procurement department to direct Crown Agent procurement. This is a result of factors beyond this project. The RDTs are currently under procurement.

Output 5: Target – Reach out to 12 million people with information on the use of bed nets

Indicator	Baseline	Milestone 1 (2014)	Achievement July 2014	Source
5.1 No. of people reached with BCC on bed net use		3 million	65,728 ⁸	UNICEF Project report

The MOU between DFID and UNICEF was signed in November 2013, with UNICEF reporting activities up to July 2014. Consequently, reports reflect the first eight months of activity rather than a full year.

The DFID funds have enabled the LLIN-related ‘Keep Up’ campaign to be added to the broader C4D campaign implemented by GHS and UNICEF with support from a variety of partners (Canada, Netherlands, etc.). This includes the promotion of a variety of priority health messages, including on malaria. The LLIN component builds on the successful ‘Hang Up’ campaign that accompanied a previous mass distribution of nets. Reported project activities include:

- The review of the National Malaria BCC Strategy was successfully undertaken during the review period, with the revised strategy document likely to be available later in 2014.
- Capacity building, in interpersonal communications skills, of a number of volunteer peer educators from a variety of groups (Christian Council, Red Cross, Queen Mothers, health staff, etc.).
- A TV drama series is under production and eight community radio stations involved in activities.
- Theatre groups have been supported in community drama containing relevant health messages.
- It is reported that 7,232 households have been reached with messages through telephone voice messaging, Mothers Groups and Peer Educators.

The UNICEF-implemented component has only been in operation for eight months and a number of key preparatory activities have taken place. However, unless some activities with a national reach are undertaken in the remaining months of 2014, it seems unlikely that the 2014 target of 3 million individuals will be reached with BCC messages. It is anticipated that progress will be greater in the second year.

The logframe measurement unit – individual people – is not directly reported in the UNICEF progress report, which contains a mix of households and individuals reached. DFID will work with UNICEF to report the number of individuals it estimates it has reached through its activities.

Output 6: Target – Reach out to 2 million health care providers and 12 million health care seekers with information on RDT use

Indicator	Baseline	Milestone 1 (2014)	Achievement July 2014 ⁹	Source
6.1 No. of health care providers reached with BCC activities on RDT use		50,000	1,458	CSO project report
6.2 No. of health care seekers reached with BCC activities on RDT use		3 million	254,270	CSO project report

The MOU between DFID and the consortium of CSOs (i.e. HFFG as the lead, Youth Development, Research & Innovation Centre (YOUDRIC) and the Institute of Social Research & Development (ISRAD)) took effect from May 2014 and thus reports reflect the first three months of activity rather than a full year. The project is limited to 10 communities in each of around 10 districts in the five regions, with HFFG responsible for activities in Brong Ahafo and Western, YOUDRIC responsible for activities in Central, and ISRAD responsible for activities in Upper East and Upper West.

The districts and communities in each region were selected through a process of discussion with stakeholders in each region, using agreed parameters, and orientation meetings have been held with relevant stakeholders in each of the regions.

Agreed preparatory activities, such as institutional orientation and finance training have been carried out. Implementation has commenced with:

⁸ UNICEF reports reaching 8,932 households and 30,000 community members. Assuming a mean household size of 4 (Ghana Living Standards Survey: 2008), this would equate to an estimated 65,728 individuals (8,932 x 4 + 30,000).

⁹ The figures reflect only three months of activity rather than a full year.

- Community volunteers having been selected and sensitised;
- BCC materials having been developed, printed and delivered; and
- Radio jingles with appropriate messages having been developed and delivered, as well as 41 radio discussion programmes organised.

This component has only been in implementation for three months, but to reach the first-year milestone by the end of 2014 implementation will need to speed up considerably. DFID should carefully review the RDT BCC consortium quarterly reports to monitor their progress against the logframe milestones. If they are consistently falling behind the milestone, remedial action may be required. Moreover, mechanisms should be identified to enable the NMCP BCC team to be aware of activities undertaken by HFFG and its partners. Better coordination, particularly with the C4D activities facilitated by UNICEF, should take place to enable synergies between the two components to occur. One mechanism would be the sharing of partner progress reports with NMCP and with each other.

Output 7: Target – Change GoG’s funding modalities from donor dependence to self-financing

Indicator	Baseline	Milestone 1 (2014)	Achievement July 2014	Source
7.1 Percentage of GoG funding of total malaria spend	67% (2012)	70%	Not known	NMCP financial reports

The MOU between DFID and the GoG governing the activities of Output 7 was not signed until February 2014 in the same agreement that covered the sentinel sites in Output 2. Consequently, it also suffered from the same problems with the five-month delay in the receipt of project funds.

This component is additional to activities considered in the Business Case but is consistent with a key aim of the project, i.e. to enable the GoG to become less dependent on donor support for malaria activities. The project will support the recently appointed NMCP officer responsible for resource mobilisation by supporting efforts to improve resources mobilised for malaria activities. This will be done through the establishment of a resource mobilisation committee and plan, meetings with parliamentarians and the private sector (through the creation of a private sector forum) and appropriate formal training and work placement attachments. The NMCP expects these activities to commence in the near future.

There is some confusion as to the source of the baseline and milestone information for this indicator. The baseline figure was provided by the NMCP, but the indicator was not reported in the 2013 malaria report and discussions with NMCP staff indicated that the source was likely to have been the NHA, which are prepared by the GHS Policy, Planning, Monitoring and Evaluation Department. The baseline figure for the project is not exactly the same as the figure found in the 2012 NHA, while 2013 NHA are still under preparation. **This uncertainty as to the source of the baseline figure, which does not accord with the figure produced in the NHA or the NMCP Strategic Plan, means it is recommended that this indicator be reviewed.**

2.2.3 Value for money

The key cost drivers identified in the project Business Case were:

1. *Through a contracted supplier:*
 - The cost of TA

This was to include the TA contracted for direct support to the NMCP and also the staff costs allocated to project activities by ESAMI, UNICEF and the CSO partners (HFFG) implementing the RDT BCC component. The Business Case envisaged that the NMCP TA would be recruited through an existing DFID Framework Agreement partner but NMCP has carried out the recruitment exercise directly, planning to recruit using the salary scale and terms and conditions used for NMCP staff recruited using GF resources. Assuming a suitable candidate can be found, this should result in much lower employment costs for the project as direct salary costs are likely to be much lower and indirect salary costs will be borne by NMCP.

Other than for UNICEF, estimates of the salary costs for implementing partners (ESMI and HFFG) are not defined in their proposals. Project MOUs with ESMI and HFFG require financial and technical reports to DFID every three months and from UNICEF every six months. To date:

- No financial or technical reports were received from ESMI; however, the MOU with ESMI was signed in December 2013 and so two quarterly reports should have been prepared.
- The first quarter (May–July) technical and financial reports have been provided by HFFG.

- One technical and financial report has been received from UNICEF for the nine-month period November 2013 to July 2014.

Both UNICEF and HFFG have provided information on expenditure on TA. The information presented by HFFG will allow TA unit costs to be calculated but this will not be possible from UNICEF's financial information.

- Travel costs

As indicated above, UNICEF and HFFG have so far provided reports with expenditure information. Both report expenditure largely by programme activity rather than economic classification (such as travel costs) and thus it is not possible to assess the impact of travel costs as a cost driver for the project. **It is recommended that DFID remind all contracted suppliers of their agreement to provide quarterly (UNICEF: six monthly) reports that include expenditure information. An appropriate format should be agreed for these reports that allows tracking of significant cost drivers, particularly TA costs.**¹⁰

2. Direct procurement:

The key cost drivers related to procurement defined in the Business Case were: (i) the cost of the nets, RDTs and SMC drugs, including shipping; and (ii) management and handling fees. On the basis of an analysis of costs, the project planned to undertake procurement by the MoH rather than alternatives such as Crown Agents or UNICEF. This decision had the added advantage of using government systems. Consequently, procurement was carried out by the MoH procurement system, with quality control by Crown Agents. The unit cost for each of the commodities procured is calculated in Table 3, with comparison to some international bench marks.

Table 3: LLIN and RDT procurement: Quantities, costs and comparisons

Item	Quantity procured	Cost (£)	Handling charges ¹¹	Total cost (£)	Unit cost	Comparison
LLIN	1.1 million	3,137,037	69,360	3,206,397	£2.91 per net (=US\$3.92)	US\$6.40 per net
RDT	2 million	814,814	23,120	837,934	£0.42 per RDT (=US\$ 0.57)	US\$ 0.57 – 0.67 per RDT

Source of price comparisons: LLIN Price: Roll Back Malaria Factsheet 2009 (www.theglobalfund.org/.../PressRelease_090417RBM_Factsheet_en/); RDT Price: 2011 Discussion Paper (www.theglobalfund.org/.../AMFm_DiscussionPaperAssessmentOfFinancialSustainabilityOfAMFm_Rep...).

Compared to the benchmark prices obtained from the GF website, the project was successful in obtaining nets at a price considerably lower than the benchmark figure while the price for RDTs was at the low end of the range of benchmark prices. The prices used in the Business Case to calculate the costs and benefits of routine targeted distribution of nets as well as the supply of RDTs to the private sector were based on a higher procurement cost than was achieved by the project for both commodities. There is no evidence to suggest any change in the other assumptions used in the calculations and so implementation is likely to have achieved a better cost/benefit ratio than had been anticipated.

The social marketing component of the project has not yet proceeded far enough to have procured any nets and the SMC trial in Northern Region has not yet started; it is therefore not possible to compare the cost/benefit calculations of the Business Case with those obtained during implementation.

The second procurement of RDTs is to be undertaken directly by Crown Agents. The Business Case considered that procurement through Crown Agents would be more expensive than would be obtained through the GoG procurement system. If this holds true, it is likely that the cost/benefit ratio for this second procurement will fall.

2.2.4 Programme management

The various programme components are each managed separately by different organisations:

- Output 1: LLIN procurement and distribution for continuous distribution – NMCP
- Output 2: Trial of SMC in Northern Region – NMCP
- Output 4: RDTs to private sector – NMCP
- Output 6: BCC for RDT – HFFG
- Output 1: Social marketing of LLIN – ESMI
- Output 3: Malaria sentinel sites – NMCP
- Output 5: BCC for LLIN – UNICEF
- Output 7: Funding modalities – NMCP

¹⁰ Based on the Business Case, travel costs should also be reported. However, it is hard to see how meaningful unit costs could be derived from such information without the need for excessive reporting (e.g. on distances travelled).

¹¹ Handling charges for both the LLIN and the RDTs were reported as £92,481. This was apportioned arbitrarily between the LLINs and the RDTs 3:1.

DFID has itself managed the relationships with each of the individual lead organisations but there are no project-specific structures (coordination meetings, etc.) to promote coordination within the project. This is left to the established coordinating mechanisms of the NMCP through various malaria sub-committees that involve key partners in the various sub-sectors (net procurement, treatment, BCC etc.). The lack of any formal project-specific coordinating mechanism does not seem to be hampering progress except in the area of BCC, where there was little or no knowledge of the activities of HFFG within the NMCP¹² or UNICEF. There are obvious potential synergies between the two BCC components that could prevent duplication or gaps.

There appears to be a lack of coordination between the implementers of the two BCC components, UNICEF and HFFG, and the NMCP. DFID should promote discussions between the three parties to facilitate the development of mechanisms to promote coordination between the two BCC components and the development of synergies between them. It may also be appropriate for DFID to hold six-monthly project meetings to ensure all components are aware of other component activities and that further delays in implementation become apparent more readily.

The MoH Procurement Unit has managed the procurement of the bulk commodities purchased by the project. This activity has been monitored by Crown Agents, who report no significant concerns in the procurement.

Once procured, items are received into the CMS where storage conditions are good and satisfactory stock handling procedures are in place. It is understood that a similar situation pertains to the Regional and District Medical Stores, although all levels of the distribution system can be put under stress by the procurement of large quantities of very bulky items, such as LLINs, which can overwhelm storage capacity at all levels. The DFID LLINs were received at a time of shortage of nets and thus distributed very quickly, in their case to the Regional Education Stores where they were quickly distributed to the primary schools in each region.

Monitoring of the NMCP components of the project is carried out primarily through the routine DHMIS, with data collated into half yearly and annual reports. It is to be noted that the annual reports do not provide data on one of the project indicators – ‘the proportion of children under five with fever tested by RDT or laboratory for malaria’. It is possible that the DHMIS could report on this statistic, but this will need to be confirmed. Similarly, neither the NMCP nor the other implementing partners are providing any information disaggregated by gender; again this may be possible, but currently there is no way of knowing the gender balance of programme beneficiaries. It may be that women are the major family decision-makers for preventive activities such as the use of bed nets and so it might be useful if a breakdown, by gender, of the programme beneficiaries, particularly of the BCC components, could be obtained. The gender parity ratio for the net attendance rate in primary school is 1.02, indicating that approximately equal numbers of children of either sex should be in receipt of LLINs.

The project components implemented by UNICEF, ESMI and HFFG are monitored using individual reporting systems with activity statistics collated into reports for DFID. The MOUs with ESMI and HFFG indicate that these should be produced quarterly while UNICEF is required to report half yearly. DFID will need to remind these collaborating partners of the need to produce regular reports on time. Lead partner reports to date have not reported the gender of those who have been reached by BCC activities. They will need to be requested to do so if DFID wishes to have gender-disaggregated information. It may be appropriate for DFID to agree a reporting format with each of the partners to ensure their reports provide the necessary activity and financial information in a form that facilitates monitoring (for instance, UNICEF has reported a mixture of the number of both households and individuals who have benefitted from the programme, but DFID needs to know only the number of individual beneficiaries).

A number of project indicators are dependent on external sources of information, such as the DHS, the MICS or Omnibus surveys. A DHS is scheduled to take place this year but the results are unlikely to be available until well into 2015. No MICS is scheduled and there is no indication that any of the project partners are intending to buy space in a future Omnibus that might ask questions related to the programme. There is a danger that future annual reviews will thus not be able to monitor progress for a number of indicators. **DFID should consider how important it is to monitor the BCC components through the Omnibus survey and, if required, consider how this might be done.**

¹² HFFG does not attend the Inter-Agency Coordinating Committee on Health Promotion.

2.2.5 Risk management

The Business Case identified a number of project risks. These are shown in the table below with both comments on the review findings related to each, as well as proposals to amend the probability assessment for some of the risks, and the addition of some further risks.

Table 4: Risk assessment matrix

Risks	Probability (high, medium, low)	Impact (high, medium, low)	Comments
GoG does not sustain the programme	Low Changed to Medium	High	The National Strategic Plan for Malaria anticipates an increasing provision for malaria from the budget. Ghana has recently experienced a period of rapid inflation with a significant fall in the value of the currency. There appear to be considerable difficulties for Government expenditure which may make increasing provision for malaria difficult.
Low patronage for socially marketed nets because of previous free net distribution	Medium changed to High	Medium	GoG policy continues to focus on the distribution of free nets with limited mention of private sector involvement. The involvement of the private sector will be difficult without a change of policy.
Volunteer fatigue in communities, affecting the delivery of antimalarials to children under five	Low	Medium	Volunteers are incentivised to participate in such activities and volunteer fatigue is unlikely unless there are several competing activities being incentivised at the same time.
Lack of demand for RDTs in the private sector	Low	Medium	Demand for RDTs in the public sector has been high. The BCC activities involve both public and private sector health workers and so there seems no reason why uptake in the private sector should not match the public sector.
BCC and social marketing take too long to generate tangible results	Medium	High	BCC and social marketing do not generate immediate results. Both BCC components have been in operation less than a year and are not yet fully functional. Recording changes during the life of the project may be difficult due to the time lag.
Parasite developing resistance to nets and drugs	Low	High	No known change.
Additional risks to be considered			
Fraud in the social marketing e-voucher scheme	Low	High	Evidence of fraud was uncovered in an e-voucher scheme in another country, which resulted in a review of the safeguards to be put in place in the ESMI component of the project. There are fundamental design differences between the two projects that lessen the chances of fraud in the Ghana project but in addition ESMI detailed the measures that will be built into the Ghana project to prevent against fraud. These measures satisfied DFID experts that the e-voucher scheme was robust and could proceed.
Implementation costs for the SMC trial will not be available	High	High	The funds anticipated to fund the implementation of the SMC in 2014 did not eventuate. DFID has reprogrammed funds to enable implementation to take place this year but it is not known from where the funds for implementation in 2015 and 2016 will be sourced. This should be established before future procurements of SMC drugs take place.

2.3 Sustainability

Two components of the project – LLIN and RDTs – feed into the routine delivery system of the GHS/NMCP and so there is the existing institutional capacity to sustain these two aspects of the programme. Two further components – SMC and ESMI – are both trials and outcome reviews of both will need to assess the institutional and financial capacity of the GHS to take them forward. The SMC builds on existing district structures (the community health volunteers) and so has a delivery system in place, but it will require considerable management time for its implementation, adding to the burden of regional and district-level health managers. The e-voucher scheme is particularly complex and, should the larger-scale trial now being supported prove successful, NMCP and its partners will have to consider how it could be continued and expanded.

Both of the two BCC components of the project – UNICEF and HFFG – are also implemented through existing structures involving regional and district health managers and community health volunteers from a variety of different bodies. It is understood that the health promotion capacity at the district level is low, although a cadre of district health promoters is being developed to be employed at this level. The issue at this level will be, in common with all public health activities that are not funded by the National Health Insurance Scheme are under resourced and so, in the absence of project funds, activities will be reduced.

Financial sustainability will be a key issue for all future malaria activities. The NMCP Strategic Plan (2014–2018) anticipates a 14% increase in funding requirements for the malaria programme by 2018, although it anticipates a fall in 2016 and 2017.

Table 5: Financial gap analysis (US\$)

Year	Amount required	GoG	Ghana's private sector	Other sources	Total amount available	Funding gap
2014	139,264,910	35,663,340	360,000	40,708,899	76,732,239	62,532,671
2015	139,694,951	40,669,240	360,000	60,878,887	101,908,127	37,786,824
2016	125,591,587	46,362,934	360,000	42,974,185	89,697,119	35,894,469
2017	122,295,705	52,853,744	360,000	43,877,769	97,091,513	25,204,191
2018	159,129,693	60,253,269	360,000	52,230,884	112,844,152	46,285,540
Total	685,976,845	235,802,526	1,800,000	240,670,624	478,273,150	207,703,695

Source: NMCP Strategic Plan 2014–2018

The plan anticipates that the GoG contribution to malaria activities will increase significantly, by 69%, while the commitments from partners will fluctuate between 30% and 45% over the five years. A significant financing gap of around 30% of total requirements is identified.

The NMCP has employed a Resource Mobilisation Officer, with activities to be supported by the project. The initial focus for trying to increase resources is the private sector and the GoG, but if significant success is not achieved the NMCP will have to prioritise activities that bring the greatest benefits for the least cost.

The SMC and e-voucher trials will need to show the potential for significant reductions in the incidence of malaria at a lower cost than other mechanisms for them to be financially sustainable. The complexity of the e-voucher scheme and the lack of institutional capacity on the part of the NMCP to take on such a programme must put its sustainability in doubt without continuing inputs from partners.

3 Lessons learned and recommendations

3.1 Lessons learned

The three programme components involving the procurement of malaria commodities worked well and we learned that the MoH procurement system has the capacity to undertake such significant procurements. For the other components, the time required to tender and contract the implementing organisations has taken around six months and so there was only limited time available for implementation in the first year. The first-year milestones for these components did not take account of this and were too optimistic.

GoG financial systems have taken much longer than anticipated to transfer funds for several components' activities to the NMCP. This has resulted in some activities not having yet started.

The programme procured the SMC drugs for Output 2 but implementation was to be funded from another source. This did not eventuate. It is not clear that due consideration was given to this risk in project preparation.

One of the programme's impact indicators and one outcome indicator have been affected by developments external to the project, and so they are not performing as anticipated.

3.2 Recommendations

Log frame indicators		Responsibility
1.	Impact indicator 3: 'The proportion of children under five admitted with fever attributed to malaria' is not behaving in the anticipated way and is rising. This is likely to be a result of external complicating factors. It is recommended that this indicator be reviewed.	DFID
2.	Outcome indicator 1: 'The number of confirmed outpatient positive malaria cases' is increasing rather than decreasing. This is because it is potentially measuring two things: (i) the number of people attending OPDs with fever (which other evidence would suggest is increasing); and (ii) the proportion of those attending who are being tested (which is also rising). It is recommended that this indicator be reviewed.	DFID / NMCP
3	Outcome indicator 2: 'The proportion of children under five with fever tested by RDT or laboratory for malaria' is not routinely reported by the NMCP. It is understood that the DHMIS can produce this information. DFID should request that the NMCP provide this information if it is available through the DHMIS.	DFID
4	Output indicator 7: 'Percentage of GoG funding on total malaria spend'. There is uncertainty as to the source of the baseline figure, which does not accord with the figure produced in the NHA or the NMCP Strategic Plan. It is recommended that this indicator is reviewed.	DFID
Financial management		
5	Bureaucratic delays within government have resulted in the very slow release of funds to NMCP to enable implementation to start in some components. All possible pressure should be brought to bear on the GoG financial system managers to try to ensure the speedy availability of DFID funds.	DFID and NMCP
Policy		
6	DFID should continue to advocate for a change in GoG policy on free net distributions, limiting their distribution to priority groups, in order to encourage the re-entry of the private sector into the Ghana net market.	DFID
RDTs		
7	While RDTs are reported to have been delivered to the hospitals/clinics and pharmacies' associations, reporting of on-distribution to, and use by, end users is not yet available. While there are no known concerns with this, DFID should investigate the flows of RDTs to the private sector and advocate for the sector to report on use through the appropriate channels.	DFID – private sector
8	Some concerns were expressed to the review team about some of the contents of the DFID-procured RDTs. The NMCP should review the content and performance of the RDTs and, if necessary, the specifications for future procurements should be adjusted to ensure a better quality product.	NMCP prior to any further procurements
Progress reports		

9.	While still early in the project, some project partners need to be reminded to adhere to their agreements to provide quarterly progress and financial reports (UNICEF: six monthly). The reporting partners should agree on report formats with DFID to ensure that progress against milestones can be easily monitored and financial reports contain information in a form that enables value for money assessments to take place.	DFID to agree reporting format with UNICEF, HFFG and ESMI before next reports are due
Coordination		
10.	There appears to be a lack of coordination between the implementers of the two BCC components, UNICEF and HFFG, and the NMCP. DFID should promote discussions between the three parties to facilitate the development of mechanisms to promote coordination between the two BCC components and the development of synergies between them.	DFID, UNICEF, NMCP HFFG,

Annex A Terms of reference

Annual Review of Ghana Malaria Prevention, Diagnosis and Data Programme

Introduction

Background to the Programme

The UK Government through DFID is providing up to £18.8 million to deliver immediate malaria prevention and diagnosis activities, to test out new approaches including those that strengthen the private sector's role in malaria control, to improve the quality and availability of data and to promote a change in people's behaviour to establish a culture of prevention and testing.

The aim of DFID's support is to help the Government of Ghana identify effective and affordable measures that will allow it to deliver a robust and sustainable malaria control programme.

The approach has four areas of intervention: prevention, diagnosis, data and behavioural change. On prevention, the UK Government is providing bed nets to the National Malaria Control Programme (NMCP) through the Ministry of Health for distribution to pregnant women and children under 5 using the continuous distribution system. In parallel DFID is working with Johns Hopkins University to carry out social marketing of bed nets through the private sector using the e-coupon system. The programme will also test the effectiveness of providing prophylactic drugs to children under 5 years of age during the malaria season in the Northern Region using community health workers, to inform a decision on whether to offer such preventative care across Ghana.

The support for diagnosis provides Rapid Diagnostic Test kits (RDTs) for malaria to private health facilities through the NMCP to enable quick and highly accurate tests for malaria to be carried out without laboratories or other equipment.

The assistance for prevention and diagnosis is being bolstered by a programme of behavioural change communication implemented by UNICEF to establish a "net culture" and a consortium of CSOs led by Hope for Future Generation to promote testing before treatment of malaria.

On data and evidence the UK Government is supporting the NMCP to establish 5 malaria sentinel sites to generate credible data. This support will give a clearer picture of prevalence and trends, particularly in rural areas, and help to inform decisions by the government. The NMCP is also being supported to recruit an Epidemiologist and also build the capacity of the Resource Mobilization and Private Sector Coordinator.

Annual Review

DFID carries out Annual Reviews of all of its programmes to assess progress against the objectives contained in the logframe, and to check if the programme is on track, and if any adjustments need to be made. At the end of a project, DFID undertakes a Project Completion Review to confirm the progress made and the success of the project.

Objectives

The ultimate goal of the annual review is to get an independent view on how the programme is progressing and to suggest recommendations about changes to make, if necessary, to improve performance.

Specific objectives

- To get update on progress for each output
- Identify how progress of each of the implementation partners contributes to each output

- Identify lessons that can be learnt to inform best practice for the programme as a whole, including recommendations about improving performance to shape the programme for the future
- Find out how well the programme, as delivered, is lining up with the Government malaria strategy
- Find out how the current government systems are being built to sustain malaria programmes in the future
- Ascertain how the stakeholders in malaria control activities are engaging with the programme e.g. private sector
- Find out whether or not beneficiaries of the programme have access to the services/commodities as expected
- Check how effectively the commodities are being stored and distributed both centrally and at programme or regional levels

Recipient

DFID Ghana is the main recipient of the consultancy services. However, report of the review will be used by all of the programme partners to inform their future work.

Scope of Work

The 2014 annual review will:

- Analyse progress in achieving milestones for outputs and outcomes in the agreed logical framework.
- Review the evidence on Value for Money and consider whether the programme is providing good value to DFID.
- Assess the programme processes and management arrangements
- Assess how implementing partners are mainstreaming gender in their programming and general activities
- Assess the extent to which risk is being monitored, and the accuracy of the monitoring and appropriateness of mitigation measures.
- Make key recommendations to inform the future operation of the programme

Methodology

- Review of key programme documents
- Field visit to Central Region
- Interviews and discussions with key stakeholders including Government of Ghana's Ministries, Departments and Agencies

Expected Outputs

- A scored annual review report in line with DFID formatting and annual review template.
- A narrative report of not more than 15 pages assessing how this year's performance contributes toward the outcomes and impact of the entire programme.
- A table of recommendations and actions arising from the annual review including a risk mitigation strategy.

The Team

The review is expected to be carried out by an international and a local consultant. The international consultant is expected to be familiar with DFID annual review processes with the ability to mentor the local consultant during the process. The local consultant is also expected to be an experienced health person with knowledge and expertise of the local context including malaria issues of Ghana.

Timeframe

The consultancy is expected to be carried out within a period of up to 16 working days, starting from 4th August 2014 to 19th August 2014. The final reports for the consultancy are expected to be submitted to DFID latest by 22 August 2014. An extra day should be set aside by the consultants to respond to comments from DFID.

Reporting and Coordination

The consultants are expected to liaise closely with DFID Ghana Health sub-team staff at all times to ensure a common understanding of the malaria programme and this assignment. A meeting will be held with the DFID Ghana Health sub-team at the beginning and at the end of the consultancy period. The consultants will report to Shamwill Issah, DFID Ghana Health Adviser and coordination will be done by:

Archie Laing, Programme Officer, DFID Ghana, and
Abena Sono, Programme Assistant, DFID Ghana

The draft report of the review will be quality assured by Dr Sue Kinn, Team Leader and Research Manager for the Human Development Research Team of DFID UK.

Relevant related documents

- Malaria Business Case
- Logframe
- Reports from implementing partners

Annex B

B.1 Documents reviewed

NMCP documents

NMCP Annual Report 2011 (draft – June 2012)
NMCP Annual Report 2012 (Final draft, February 2013)
NMCP Annual Report 2013 (Draft – January 2014)
NMCP Half-Year Report January – June 2014 (undated)
NMCP Strategic Plan 2014 – 2018 (Final draft, November 2013)

DFID documents

Business Case, Intervention Summary and Log Frame: Ghana Malaria Prevention, Diagnosis and Data Programme
Operational Plan Ghana 2011–2015 (updated June 2013)
MOU between DFID and JHU (Social Marketing)
MOU between DFID and CSO Consortium represented by Hope for Future Generations (BCC RDT)
MOU between DFID and UNICEF (BCC LLIN).
MOU between DFID and Government of Ghana (TA and Sentinel Sites)
TOR for DFID support for Technical Assistance to NMCP.

Component proposals

The e-Enhanced Social Marketing Initiative (ESMI): A Proposal for e-Coupon LLIN Distribution in Ghana. (October 2013) JHU-CCP, MEDA and Malaria Consortium
Behaviour change communication (BCC) initiative for the promotion of the use of microscopes and/or RDTs for Malaria diagnosis. (January 2014) HFFG, ISRAD and YOUDRIC
Keep-Up Campaign” to increase utilisation of Long Lasting Insecticide Treated Nets. (August 2013) UNICEF

Progress reports

CSO consortium providing BCC inputs (led by Hope for Future Generations): Year 1, 1st Quarter technical and financial reports.
Progress report on the BCC Malaria Diagnostics Project, May – July 2014. YOUDRIC
Progress Report on the Keep up Campaign November 2013 – July 2014. UNICEF
Risk mitigation strategy for MEDA E-coupon under ESMI
Ghana LLIN e-Coupon Pilot Process Evaluation; November-December 2013

B.2 Stakeholders interviewed

Person met	Designation
Shamwill Issah	Health Adviser, DFID
Archie Laing	Programme Manager, DFID
Abena Sono	Programme Assistant, DFID Ghana
Dr Patrick Aboagye	Acting Director, Family Health Division, GHS
Dr E Agongo	Director, PPME Division, GHS
Dan Osei	Deputy Director, PPME, GHS
Kafuui Annan	Head, Health Promotion Unit, GHS
Dr Isabella Sagoe-Moses	Child Health Coordinator, GHS
Aba Baffoe Wilmot	Focal Point LLIN, NMCP
Otubea Akrofi	Medical Entomologist, NMCP
Vivian Aubyn	Resource Mobilisation, NMCP
Yaa Williams	Focal Point RDTs, Sentinel Sites NMCP
Joel Balboare	Finance Manager, NMCP
Stephen Apia	Deputy Finance Manager, NMCP
Kofi Osae	Monitoring and Evaluation, NMCP
Eunice Mint-Agimem	Social Scientist (BCC), NMCP
Dr Felicia Amoo-Sakyi	Programme Officer/Focal Person Case management, NMCP
Surani Abeyesekera	Communications for Development Specialist, UNICEF
Sarah Hague	Chief of Social Policy, UNICEF
Cecilia Lodonu-Senoo	Executive Director, Hope for Future Generations
Hardi Bakari Nyari	Director of Programmes, ISRAD
JK Ofori	Chief of Party NetWorks Ghana
Emmanuel Fiagbey	CCP Country Director/Snr. Strategic Adviser, ESMI
Felix Nyanor-Fosu	Project Director, ESMI
Sammuel Seddon	Operations Director, ESMI
Frank Mante	Team Leader, Crown Agents
Wilma Qyarme	Ghana Community Radio
Central Region	
Dr Karikari	Deputy Regional Director, GHS, Central Region
Elizabeth Adjoa Wood	PNO, Regional Health Office, Central Region
Moses Asante	Regional Malaria Focal Person Cape Coast – Central Region
Dr Amoussou Loiz	GHS, Efute District
Wisdom Kalenu	Senior Supply Officer, Central Region Medical Stores
Dr Ameka	OIC, Apam Catholic Hospital
John Aidoo	Regional Manager, Ghana Red Cross
Eric K. Amano-Mpianim	Programme Director, YOUDRIC
Daniel Attrams	Project Manager, YOUDRIC
Samuel Kofi Addo	Secretary General, Ghana Red Cross Society

B.3 Central Region field trip report

Introduction

A three-day visit, from 5–7 August 2014, was paid to the Central Region as field support to the DFID Annual Review of the Ghana Malaria Prevention, Diagnosis and Data Programme. The objective of the field visit was to review progress of implementation of three of the five key programme components, namely ‘Prevention with emphasis on LLIN distribution’, ‘Diagnosis with RDTs’, and ‘BCC in support of LLIN and RDT use’.

An introductory letter from the Director General, GHS, paved the way for a warm reception by the Central Regional Directorate. A courtesy call on the Deputy Regional Director, (PH), enabled the consultant to meet the relevant GHS staff culminating in the development of a schedule of appointments. The consultant met with GHS staff from the regional, metropolitan/district and zonal levels, representatives of implementing partners (UNICEF – Coastal TV and Red Cross) and the CSO consortium (YOUDRIC), representatives of private and CHAG facilities, and also a Mothers Support Group. The list of contacts is attached to the main report as Annex B2.

This report is arranged in sequence of the three identified key components.

Prevention:

LLIN distribution and storage: The region collects its net allocation from the CMS, Tema, on notice from the CMS on net availability. The quantum of allocations to regions is pre-determined by the NMCP, based on each region’s population and consumption rates. On receipt at regional stores, districts are informed on the availability of nets for requisition. The Regional Medical Stores distribution to facilities employs two channels, either supplied from the Municipal/District Stores or directly from the Regional Medical Stores. According to the GHS Regional Malaria Focal Point, there has been marked improvement in availability of LLINs this year, compared to previous years, and there have been no net stock-outs at the regional level since the beginning of the year. The large quantity of nets provided required the directorate to hire a warehouse in town, due to lack of space at the regional stores. A visit to the regional stores found nets appropriately stored and documented using bin cards. The Senior Supply Officer complained about space and the need to hire extra storage facilities. He suggested nets are distributed directly to districts on the way instead of bringing all of regional supplies to the Regional Medical Stores.

Facility use and recordings: A recent monitoring exercise on the implementation of the Continuous Distribution Strategy in 39 facilities by the regional monitoring team found shortages of nets in 20 health facilities in nine districts. In some cases shortages occurred as far back as November 2013, and in others since the beginning of 2014. The monitoring report enumerated a number of potential reasons that could have contributed to the shortages:

- none of the 39 health facilities monitored employed the maximum and minimum stock levels principle; poor knowledge of facility consumption rates;
- in some facilities the Routine Child Health (RCH) and ANC units collect ITNs separately and independently from district stores;
- inadequate communication between district stores and facilities on LLIN stocks and status;
- the multiplicity of routes through which LLINs get to the point of use makes tracking difficult. For example, the monitoring found out that 34 out of 39 monitored facilities got their LLINs from the District Health Directorate stores, with five getting their LLINs from the Regional Medical Stores through the District Medical Stores. At the Child Welfare Clinic (CWC) and ANC level, 10 RCH units collect LLINs from district stores and then supply ANC while two ANC units collect LLINs from district stores and supply to CWCs.

There has been confusion in the responsibility for net management at the facility level, but it is understood that this is being addressed by management supervision and monitoring.

The report indicates that all 39 health facilities monitored recorded correctly the issue of LLINs in the maternal and child health booklets, even though these recordings in the majority of cases were not reflected in the relevant registers. For example, 74.4% of CWCs and 48.6% of ANCs were not recording issues in CWC and ANC registers respectively. Over 84% of CWCs and 45% of ANCs monitored were using bin cards.

The monitoring team found that, for the 39 monitored facilities, over 250 staff are yet to be trained in BCC. Improving the skills of providers for the effective implementation of C4D of LLINs is a priority.

The Baiden Gharthey Memorial Hospital (BGMH), a CHAG hospital in Cape Coast, supports the GHS RCH team by providing space for storage of LLIN in the hospital store. They do not, however, record the quantities held as they are stored on behalf of the GHS rather than the hospital itself. They did express the desire for the facility to be supplied with a quantity of nets that they can use in the absence of the RCH team.

Facilities reported that LLINs are given to beneficiaries free of charge. This was confirmed by a small number of clients (two in each facility) interviewed at the facilities. Clients' education and counselling on the use, care and benefits of the nets was observed at both hospitals, as beneficiaries were given the nets. Beneficiaries were able to respond favourably to questions on why they should use nets and how to prepare, hang and care for them. Educational materials were limited in the private facilities. The issuance of nets to beneficiaries was recorded in their maternal health records.

Municipal/district directors, public health nurses and the regional malaria focal person considered the continued distribution of nets as timely and image building, as it allowed the region to fill the gaps in coverage after the mass distribution.

Although there is no consistent pattern of reduction in the number of antenatal women experiencing malaria (see Table B.1), providers envisage a downward trend as the targeted distribution, backed by coherent community education, continues.

Table B.1: Monthly records of first registrants and reported malaria cases among pregnant women, BGMH

Month	1st registrants	Reported malaria cases
January	157	7
February	122	10
March	146	3
April	115	8
May	137	5
June	127	7

The situation at the Apam Catholic Hospital (another CHAG institution) is peculiar as it does not receive either nets or RDTs from the Metro Health Directorate, even though CHAG institutions should be included for receipt of such items from the government. Apam Hospital authorities would like to receive free nets and RDTs, as they have a large catchment population of both pregnant women and children under five. Following the facility's involvement in the President's Malaria Initiative, the facility gives priority attention to pregnant women and children under five that present malaria symptoms. The facility currently buys its stock of RDTs from the open market.

The Winneba Zongo CHPS compound receives its supplies of nets and RDTs from the Metro Health Directorate and these are appropriately recorded. So far they have not had pregnant

women reporting to the facility. The Child Health Nurse and the Enrolled Nurse have been trained on continuous distribution and RDTs and claim that RDTs make their work easier. They are actively supported by a vibrant Mothers Support Group, which needs to be trained and equipped with appropriate educational materials. They are not aware of the school-based Community Development (CD) activities.

The GHS authorities in Efutu District reported receiving regular supplies of LLINs and RDTs since the beginning of 2014, an improvement over the previous year when stock-outs occurred. The four private health facilities in the Efutu District are encouraged to buy RDTs from the open market for when DFID-supported RDTs are not available.

The RDTs were reported as being extremely useful – comments included that they were quick, timely, can be used in emergencies, cheap since they do not involve reagents, and as improving diagnosis for correct treatment. Consumables have not been a challenge, even when they have to use facility stocks. In the past, recordings of tests were not accurate but training has improved the situation. The district is planning to hold refresher courses on clinical care.

RDTs' acceptability among clients seems to be high in view of the quick diagnosis and non-delayed treatment.

Recommendations:

1. The region needs to deal with the communication gaps between District/Metro directorates and CHAG facilities on the CD strategy and supply channels. This would help improve the coverage of intended beneficiaries that form part of their constituencies.
2. Provider training should be stepped up to improve quality of implementation and documentation.
3. Routes of distribution to facilities should be streamlined to avoid stock-outs and the deprivation of clients of their rightful services.
4. District health directorates should identify and build synergy between facilities and the schools that are involved in the CD strategy in their respective districts. None of the providers contacted were aware of the school-based CD.

RDTs

Distribution: Between February and July 2014, the Central Region received four batches of RDTs totalling 971,775 kits from the CMS. Districts are notified of the availability of RDTs on receipt from the CMS.

District allocations are based on populations. Unlike LLINs, distribution of RDTs is done solely through the districts – facilities are not allowed to collect supplies directly from the Regional Medical Stores. District directorates have the responsibility to distribute allocated RDTs to their respective facilities. The private (not-for-profit) health facilities are included in this distribution system, although there is no mechanism for the regional authorities to know how many RDTs are transferred to a particular facility, whether private or public.

There have been no RDT stock-outs since the beginning of the year, unlike in 2013 when supplies were inadequate and erratic. Distribution of RDTs based on facility/district consumption rates is yet to be applied as districts build the appropriate data.

Training has been conducted for relevant district teams comprising doctors, pharmacists, lab technicians, disease control officers and public health teams. So far over 181 district team members have been trained and these have conducted step training for lab assistants, community health workers and enrolled nurses at the facility level. The total number of providers so far trained on RDTs is not known.

The RDTs are securely stored and properly documented at the Regional Medical Stores. Storage of RDTs at Elmina Health Centre was not good, as cartons of RDTs were mixed up

with used equipment and materials in the store. Bin cards were being used appropriately for receipt and issue out at both levels.

The private BGMH had been denied RDT from the Regional GHS Store but had collected a carton from its parent association, the Society of Medical and Dental Practitioners Association. Hospital staff have been trained by the district directorate and storage and records were good. The facility indicated that it provides reports for inclusion in the DHIMS. RDTs are given free of charge in both public and private institutions.

Usage and recordings at facility level: The two labs visited, Elmina Health Centre and BGMH, had adequate quantities of RDTs, issued to them by the facility stores. Recordings of both RDTs and microscopy used are done. Lab technicians have been trained in the use of the test kits. While test kits sponsored by DFID and GF were found in Elmina Health Centre and Winneba Zongo CHPS compound, only DFID-supported kits were seen in BGMH. Discussions with laboratory staff revealed a number of concerns. These included:

DFID kits

1. Unclear readings and false negatives for clients with early malaria even though symptoms are clearly those of malaria presentation.
2. Buffer quantity too little, either dried up or spilled through broken containers.
3. Alcohol pad usually dried up.
4. Need to include cotton pads in the kit.

GF kits

1. Unclear readings and false negatives for clients with early malaria.
2. Buffer for over 50 kits in one bottle, in case of spills some kits cannot be used, thus increasing waste.
3. Lancet is unfriendly and puts patients off.
4. Need to include cotton pads in the kit.
5. Should include gloves.

The use of RDTs is seen to benefit both providers and clients; for providers it is fast, easy to use, improves diagnosis and correct treatment, good for emergencies when labs are closed and reduces the cost of reagents. For clients, delays in receiving test results and correct treatment as well as the temptation of postponing the test to do it outside the facility (to the detriment of the client) are considerably minimised.

Recommendations:

1. District directorates should undertake dialogues with the private facilities in their catchments areas with a view to improving understanding of distribution routes for RDTs and encouraging them to use the kits. They should also be able to link up with the umbrella associations of private practitioners to ensure timely distribution to their members that operate in their respective catchment areas.
2. Monitoring of facility RDT use should include private facilities, particularly those that report to district directorates.
3. Continuous training of providers would be necessary to improve their application skills, increase their enthusiasm for using the kits, and reduce false negatives as much as possible. Such training should always cover the staff of private facilities, whether for profit or not for profit.
4. Current RDT non-supplies to some private not-for-profit facilities (CHAG facilities) should be looked into urgently to ensure populations in their catchments areas are not denied such useful services.

5. NMCP needs to brief regional and district directorates on the DFID RDT supplies to the private facilities through the umbrella bodies so as to enable regions and districts to support and monitor distribution to the private facilities in their jurisdictions.
6. Training on RDTs at the regional level should include the district directors who superintend community health in the districts and are the immediate supervisors of facilities and service providers. The NMCP should engage these directors even at the group/association level to improve their knowledge of RDT implementation and define their charge for successful implementation and reporting.
7. The NMCP should review the concerns over kit performance and contents, expressed by the users of RDTs, and if found to be significant should revise the specifications used for procuring RDTs.

BCC for LLIN use: Two of UNICEF's partners – the Coastal TV and Red Cross in the Central Region – who are working to achieve the 'net culture' objective of the programme were visited.

The Coastal TV: A longstanding partner to UNICEF, the Coastal TV has been involved in the development of documentaries, spots and TV programmes in support of the UNICEF-sponsored C4D programme. Under the DFID-supported BCC for net use, Coastal TV has been contracted to develop and broadcast a TV drama series and organise road shows to create a platform for community dialogue and interactions around net use. Scripts for the series have been approved recently by NUCEF/NMCP, leading to the start of filming of the series. Branding of nets on vans used for road shows with the message, 'Did you sleep under a treated net yesterday night?' has also started. In terms of coverage, the station reaches seven districts each with a population of around 250,000 people. A recent listenership/viewership survey reported that at least 40% of the viewers in the Elmina and Cape Coast municipality who watch TV for at least an hour a day watch Coastal TV.

Copies of public service announcements prepared in support of the mass net distribution were made available to the health directorate, and community information centres are airing them. The programme works in close collaboration with the District BCC focal persons in the 10 districts. Monitoring mechanisms are yet to be developed. Coastal TV offers free airtime to the health directorate for health programmes, an offer that is, apparently, underutilised. Challenges for Coastal TV have been more administrative, relating to release of funds and approval of scripts.

Ghana Red Cross Society: The organisation works in six districts in the region, with five communities in each district and five trained community volunteers in each community. A Training of Trainers workshop organised by UNICEF in February/March 2014 on interpersonal communication for 13 regional and district focal points facilitated step-down training of 152 volunteers. Since then, volunteers have undertaken house-to-house visits on treated net use in assigned households. Each volunteer is supported to develop his/her workplan covering not more than five households a month. All assigned households (no specific number given) are to be covered within a year. Active community education started in April 2014, when volunteers engaged families through house-to-house visits and schools education with net hang-up demonstrations and quizzes. Unfortunately, appropriate volunteer job aids and client materials for community dialogue were not available. Volunteers are monitored by district organisers and Mothers Club facilitators using a supportive supervision checklist developed by the society. Their monthly review meeting in June reported reaching 489 households, a total of 2,445 people. A reporting format specific to the UNICEF-supported contract is yet to be defined.

Major challenges have been the unavailability of volunteer job aids and client materials and in the relevant local dialects and the lack of volunteer ability to translate the English versions into local dialects and the delayed releases of funds, which negatively affects monitoring, increasing the temptation on the part of volunteers to pay more attention to other programmes

where they are incentivised. The regional manager also raised the issue of limited funds for activity implementation, transport cost to even five communities and the organisation of monthly review meetings. Recommendations for increased funding and incentives such as rain coats, wellington boots, etc. for volunteers have been sent to the national office and feedback is awaited.

BCC for RDT uptake: YOUDRIC is a member of the CSO Consortium, responsible for BCC in support of RDT use by health providers and for increasing clients' demand to providers to use RDT for malaria diagnosis. YOUDRIC works in 10 of Central Region's districts with 10 communities in each. Some of their achievement so far include: the regional stakeholder meetings that identified focus districts, the organisation of 10 district stakeholder meetings that identified communities for the project, the training of community volunteers, provider orientations, community durbars, and radio programmes.

The 466 participants at the district stakeholders meetings, including School Health Education Programme coordinators, chemical sellers and traditional herbal practitioners, health facility heads, private health practitioners, traditional and community leaders, laboratory technicians etc., agreed to undertake specific roles that would support the work of the CSO in promoting the use of RDTs at the facility level and create clients' demand to use RDTs by providers. In addition to the orientation of 270 health service providers from 150 communities oriented on the use of RDTs, 108 volunteers were trained. Community information centres in 78 communities have been engaged to play jingles three times a day, and radio discussions for health workers are held twice a week. It is estimated 35, 000 people were reached in July 2014 alone.

Community volunteers reached over 15,000 people through house-to-house and small group discussions, with a further 3,918 people being reached through 13 community sensitisation durbars. In addition, 54,089 health care seekers were sensitised to demand to be tested using RDTs or microscopy before treatment for malaria. These activities have been supported with posters on 'Test, Treat and Track' and brochures on RDTs. The CSO plans to engage community radio stations in the coming months to increase their reach. For monitoring purposes, volunteers are required to fill in a 'House-to-House Education Form', which indicates the house visited, number of people reached, and type and number of BCC materials distributed. It was reported that volunteers are given 50 Ghana Cedis per quarter as an incentive.

Recommendations:

1. Leads in BCC should agree on ways to creatively build synergy between their activities at the community level, particularly as they work with almost the same volunteers and communities and employ the same approaches and methods.
2. To maximise human resources, partners should equip each volunteer with messages and materials on nets and RDTs to enable them to talk about and dovetail messages on net and RDT use at each household visit. This can promote message reinforcement that is good for behaviour change.
3. Partners should harmonise their monitoring tools and forms to encourage joint monitoring where applicable, making it easier for volunteers to fill them in and also helping with responsive reporting to DFID.
4. Although there has been no competition among volunteers as to which partner one should work with yet, partners need to review and harmonise current incentive challenges before some partners become deprived of volunteer services.
5. For consistency and technical quality, partners should seek the technical advice of NMCP and the Health Promotion Department at GHS through their lead agency/organisation in the development and pretesting of job aids and client materials.

6. The schedules of radio and TV spots and programmes should be shared among partners to enable them to inform their volunteers to listen in and get their communities to do so too. This can enhance learning for volunteers and enrich client information and knowledge.