

Year 4 Semiannual Report



# VECTORWORKS PROJECT

October 1, 2017 – March 31, 2018



**USAID**  
FROM THE AMERICAN PEOPLE



U.S. President's Malaria Initiative

**VECTORWORKS**

Scaling Up Vector Control for Malaria Prevention



## VECTORWORKS PROJECT

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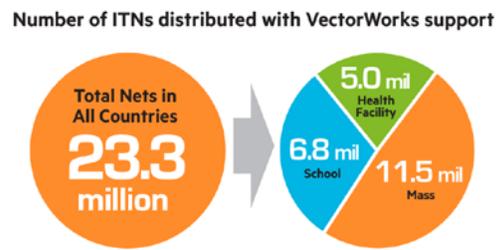
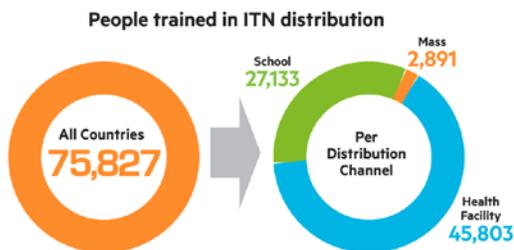
# VECTORWORKS by the Numbers

## Selected achievements 2014-2018

VectorWorks has worked in **16 countries**

Angola, Benin, Cameroon, DRC, Ghana, Guinea, Kenya, Liberia, Malawi, Mozambique, Myanmar, Nigeria, Senegal, Tanzania, Uganda, Zimbabwe

**11** peer reviewed journal articles produced and disseminated by VectorWorks



**11** studies conducted for improving insecticide-treated net (ITN) access and use

**8 countries since 2014**

VectorWorks has conducted ITN durability monitoring

VectorWorks supports social behavior change communication activities for ITN use in 5 countries

Liberia  
Ghana  
Guinea  
Tanzania  
Zimbabwe

VectorWorks has created **ELEVEN TOOLS** to improve ITN access and use

### Country Highlights

In Ghana the % of children who received ITNs during vaccination visits at health clinics increased from 54% in 2014 to **89%** (Feb 2018).

In Ghana, **13,162 schools** formed school health teams to promote ITN use in their communities.

In Tanzania, the project expanded the distribution of ITNs through antenatal and immunization clinics from 2 regions in 2016 to **14 regions (over half the country)** in 2018.

In Tanzania, the project expanded School Net Program (SNP) coverage from **3 to 14 regions** (54% of all regions), **increasing ITN deliveries to 3 million** in 2017 from 1.1 million (2016) and 494,000 in 2015.

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## Abbreviations

ABCDR	Attrition, Bioefficacy, Chemistry, Degradation, and Insecticide Resistance
AIS	Accountability Information System
AMP	Alliance for Malaria prevention
ANC	antenatal care
AOR	agreement officer's representative
ASTMH	American Society of Tropical Medicine and Hygiene
C4H	Communicate for Health
CAMRE	Tulane University Centre for Applied Malaria Research
CCP	Johns Hopkins Center for Communication Programs
CHIMT	County Health Integrated Monitoring Teams
CHMT	County Health Management Team
CIHO	Communication for Improved Health Outcomes
CMS	Central Medical Stores
CREC	Entomological Research Center of Cotonou
CRSPC	Country/Regional Support Partner Committee
DFID	Department for International Development
DHIS2	District Health Information System 2
DHS	Demographic and Health Survey
DM	durability monitoring
DRC	Democratic Republic of Congo
eLMIS	electronic Logistics Management Information System
EMIS	Education Management Information System
EMMR	Environmental Monitoring and Mitigation Report
EPI	Expanded Programme on Immunization
EWSA	Early Warning Systems Alert
FAO	Food and Agriculture Organization
FDA	Food and Drug Administration
FHD	Family Health Division
FHU	Family Health Unit
GES	Ghana Education Service
GHS	Ghana Health Service
GHSC-PSM	Global Health Supply Chain-Procurement and Supply Management
GMP	Global Malaria Programme
HC3	Health Communication Capacity Collaborative
HCW	health care workers
HMIS	health management information system
HWG	Harmonization Working Group
IFRC	International Federation of the Red Cross
ID	institutional delivery
IHI	Ifakara Health Institute
iMaP	Mozambique Integrated Malaria Program
INS	Instituto Nacional de Saúde
IRB	institutional review board

IRS	indoor residual spray
i2i	innovation to impact
ITN	insecticide-treated nets
KSPH	Kinshasa School of Public Health
LLIN	long-lasting insecticide-treated net
LQAS	Lot Quality Assurance Sampling
M&E	monitoring and evaluation
MaVCOC	Malaria Vector Control Oversight Committee
MCH	maternal and child health
MCSP	Maternal and Child Support Project
MERG	Monitoring and Evaluation Reference Group
MICS	Multiple Indicator Cluster Surveys
MIS	Malaria Indicator Survey
MOE	Ministry of Education
MOH	Ministry of Health
MORE	monitoring, operations research, and evaluation
MPAC	Malaria Policy Advisory Committee
MSD	Medical Stores Department
NHMT	National Health Management Team
NIMR	National Institute for Medical Research
NMCP	National Malaria Control Program
NMEP	National Malaria Elimination Program
NMIMR	Noguchi Memorial Institute for Medical Research
PBO	piperonyl butoxide
PHE	Population, Health and Environment
PIRS	Performance Indicator Reference Sheets
PLWHA	people living with HIV/AIDS
PMD	point mass distribution
PMI	President's Malaria Initiative
PMP	Performance Monitoring Plan
PO-RALG	Prime Minister's Office—Regional Administration and Local Government
PSI	Population Services International
PSMP	Private Sector Malaria Prevention
PTA	Parent Teacher Association
RBM	Roll Back Malaria
RCH	reproductive and child health
RHMT	regional health management team
SBCC	social and behavior change communication
SCMU	Supply Chain Management Unit
SHEP	School Health Education Programme
SNP	School Net Program
SRN	subregional network
STTA	short term technical assistance
TDR	Special Programme for Research and Training in Tropical Diseases

TMEMS	Tanzania Monitoring and Evaluation Management System
TRP	Technical Review Panel
UCC	Universal Coverage Campaign
UI	User interface
UNICEF	United Nations Children’s Fund
USAID	U.S. Agency for International Development
VCTEG	Technical Expert Group on Malaria Vector Control
VCWG	Vector Control Working Group
WHO	World Health Organization
ZAMEP	Zanzibar Malaria Elimination Program

# EXECUTIVE SUMMARY

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## Background

VectorWorks is a five-year global malaria prevention project funded by the U.S. President's Malaria Initiative (PMI) through the U.S. Agency for International Development (USAID). The purpose of the VectorWorks project is to support countries to achieve and maintain high levels of coverage and use of long-lasting insecticide-treated mosquito nets (ITNs) as well as to facilitate the adoption of proven alternative vector management interventions, including those targeting specific sites or populations. VectorWorks activities focus on three main areas: policy, monitoring and evaluation (M&E), and implementation support.

### Project Objectives

**Objective 1: Policy.** Develop and promote policies at both the international and national levels to encourage sustained, high levels of coverage and use of long-lasting ITNs and/or alternative vector management interventions.

**Objective 2: Monitoring and evaluation.** Design, conduct, and analyze results from monitoring, evaluation, and operational research activities to improve current best practices of long-lasting ITNs and/or alternative vector management interventions.

**Objective 3: Implementation.** Promote and support country-level implementation of malaria prevention activities to ensure sustained high-level coverage and use of long-lasting ITNs and, as needed, targeted coverage and appropriate use of alternative vector management interventions.

## Executive Summary

VectorWorks is moving smoothly towards successful completion of our key objectives. Operating in 12 PMI focus countries in Year Four, we have strong demand from USAID missions for our technical assistance, especially for Durability Monitoring (eight countries) and ITN distribution technical assistance (seven countries). We are on track to complete the project at our ceiling of 60 million USD, and are consolidating the evidence on costs and operational considerations for mass and continuous ITN distribution, strengthening capacity for mass distribution, and providing critical thought leadership on pragmatic solutions to reach and maintain universal ITN access and use.

### Policy

VectorWorks continues filling in the evidence base for continuous ITN distribution through schools, health facilities, and community channels. All of the pilot continuous distribution evaluations are now published (or in press), and our work on the cost-effectiveness of different combinations of mass and continuous distribution strategies was presented at the Vector Control Working Group (VCWG) and is being written up for publication. Our research on using population ITN access as the key indicator for universal coverage has informed World Health Organization (WHO) policy on universal access to malaria interventions. PMI's Technical Guidance and procurement policies are grounded in our research on quantification, continuous distribution, preferences for net attributes, and net care. We continue to work closely with WHO and The Global Fund to Fight AIDS, Tuberculosis and Malaria on ways to improve ITN access at the policy and M&E levels.

## Monitoring & Evaluation

VectorWorks will complete 36-month and 24-month data collection for Durability Monitoring (DM) activities in DRC, Mozambique, Myanmar, Nigeria, and Zanzibar in the second half of Year Four, and has begun baseline fieldwork for new DM activities in Ghana, Kenya, and Liberia. Our meeting at American Society of Tropical Medicine and Hygiene (ASTMH) for DM investigators and our subsequent webinars are well-attended, and the DM email listserv now has 241 subscribers. We have provided distance technical assistance to durability monitoring teams in Mali and Zambia, ensuring adherence to the standard protocol and questionnaires. The project also finalized modeling analysis of the first eight PMI durability studies, presented at VCWG, showing that using nets – even if holed – was the most important protective measure, and that improving net condition or overall lifespan would not be as helpful as improving consistent net use. As data continues to roll in from the current crop of monitoring activities, VectorWorks will compile and update recommendations for PMI with regards to vector control decisions and procurement policies.

VectorWorks is now analyzing the data collected on human behavior and vector biting behavior to assess the relative importance of residual indoor exposure and residual outdoor exposure for malaria transmission. The data will also inform prioritizing subsequent action – whether this is to continue to improve consistent ITN use, or to ramp up focus on peri-domestic bite prevention. The study in Zanzibar has completed data collection, will conduct an analysis workshop in Quarter Three, and following the completion of the data analysis will disseminate the findings both within Tanzania and globally.

## Implementation

The project supported the distribution of a total of 5,007,903 nets in first half of Year Four across Ghana, Guinea, and Tanzania. In Ghana we provided TA to assist the NMCP's distribution work, while in Guinea and Tanzania VectorWorks conducted the actual distribution of ITNs through a variety of channels.

VectorWorks provided technical assistance to the Ghana NMCP for planning and implementing the ITN point mass distribution (PMD) pilot in two districts each in the Volta Region (South Tongu and Akatsi North) and Eastern Region (New Juaben and Asuogyaman) from September 2017 to January 2018. The pilot was necessary because of the shift from paper-based household registration and distribution to the introduction of an app on mobile devices for household registration and distribution. During the pilot, the National Malaria Control Program (NMCP) and partners delivered a total of 202,725 ITNs to 116,013 households. The project provided key support to Ghana's mass campaign by testing and refining the "NetApp" used for household registration and ITN distribution, along with ongoing coordination support to Ghana NMCP and Ghana Health Service (GHS).

In Tanzania, VectorWorks completed the fifth round of school net distribution early in Year Four, and supported the Smart Push (the initial delivery of ITNs to health facilities in a region) of over 1.5 million ITNs to 17 regions supported by PMI and the Global Fund. VectorWorks has now supported the distribution of ITNs to all 26 regions on the mainland, and Zanzibar is launching ITN distribution in communities and health facilities with support from VectorWorks. In conjunction with these distributions, VectorWorks also supported social behavior change communication (SBCC) to encourage proper net use.

VectorWorks completed a pilot for school distribution in Boké, Guinea, distributing over 21,000 ITNs and will evaluate the ITN coverage in Quarter Three. VectorWorks also provided technical assistance for DRC's planned school distribution, and led several partners in the process of planning Mozambique's first school distribution pilot, slated for May, 2018 in Zambezia Province.

VectorWorks supported an International Federation of the Red Cross (IFRC)-led training of mass campaign consultants in January, bringing together experienced and newer Alliance for Malaria prevention (AMP) consultants to ensure that technical assistance is consistent and high quality, while also expanding the pool of trained consultants.

## Dissemination

VectorWorks also continues to ensure PMI-funded results are brought to international attention through VCWG/AMP meetings, and through participation in global level policy discussions at WHO and GFATM meetings and presentations. We have a strong and continuing presence in work stream leadership, and in-country participation in the AMP and VCWG meetings.

VectorWorks published one new peer-reviewed paper in the first half of Year Four, "Impact of a 15-month multi-channel continuous distribution pilot on ITN ownership and access in Eastern Region, Ghana" by Celine Zegers de Beyl et al, in *Malaria Journal* 17.1 (2018): 124. The remaining CD pilot paper, from Nigeria's school distribution, will be published shortly in *Global Health Science and Practice*.

VectorWorks had nine posters and one oral presentation at the American Society of Tropical Medicine & Hygiene meeting in November 2017 in Baltimore. In addition, VectorWorks team members made four presentations at the AMP meeting in February, 2018.

## Challenges

Delays in obligations from USAID forced VectorWorks management to issue Stop Work orders for several country programs from December 2017 through February/March of 2018. While the project was able to continue with staff and reporting duties during that time, significant delays in implementation did impact our ability to provide deliverables on schedule. The baseline report for the Mozambique school pilot evaluation, Ghana's net use gap study, health facility supervision, and school SBCC activities, Tanzania SBCC activities, and Liberia supervision visits for health facilities distribution were all pushed back until the funding situation became more certain. A significant amount of staff time was spent planning and prioritizing budgets and activities in response to the delays in funding. This impeded progress on Core deliverables, including the misuse toolkit, ITN access paper, ITN seasonality analysis, and continuous distribution decision tree.

Late arrival of ITNs at port in Tanzania and slow clearing of the ITNs through port and customs delayed the project's ITN delivery timelines for schools and for health facilities. Delays in clearing and transport of ITNs in Liberia have also made implementation of SBCC to support the mass campaign more challenging.

We have not, to date, been able to address the activity area mentioned in Objective One, "facilitate the adoption of proven alternative vector management interventions, including those targeting specific sites or populations" as part of our core agenda. This is due to a lack of WHO-approved alternative vector control tools during the project time-period. We have an opportunity to explore the issue of targeting piperonyl butoxide (PBO) nets to specific sites in Tanzania with high insecticide resistance, and have discussed monitoring approaches for PBO nets with PMI. We anticipate providing PMI with a draft protocol and budget for monitoring in Quarter Three for discussion.

## Opportunities

The culmination of the project in the remaining 15 months of implementation will focus on consolidating lessons learned from three key areas. First, our research on ITN distribution strategies and the costs of implementing those strategies gives us a comprehensive database. This allows us to model the best strategies for ITN distribution in particular transmission zones and for particular operating environments. We

plan to disseminate our findings on CD implementation through a variety of channels and materials, targeting our dissemination to country decision-makers who can use the information for improving malaria vector control in their countries. Second, our research on ITN durability will be consolidated to inform global procurement practices, as well as to inform local procurement strategies, in places where ITNs last longer or shorter than the three year average. Finally, the body of knowledge on ITN use and its influencing factors will be complete by the end of Year Four. Disseminating the programmatic implications of this research – tailored for individual country programs – will be a key activity in the remainder of the project. Likewise, the knowledge gained on granular ITN use from the residual transmission research in Zanzibar and elsewhere will provide a framework to identify important (and less important) behavioral gaps crucial for malaria control and elimination. This information in turn will help to prioritize additional vector control tools in various settings.

Next-generation nets are on the horizon. The project continues to engage with global leaders to identify the nuts and bolts issues for distributing these nets, and to monitor modeling studies and randomized control trials (RCTs) that will inform where they are best used.

We are hopeful that with the Roll Back Malaria (RBM) Country/Regional Support Partner Committee (CRSPC) in place with reconfirmed co-chairs, that the project will be able to disseminate key lessons learned and new tools (NetCALC Lite) at CRSPC meetings and Mock Technical Review Panel (TRP) meetings, which have not been possible in recent years due to the RBM reorganization.

Finally, in coordination with PMI, we are planning to submit key research noted above at the 2-3 remaining Technical Expert Group on Malaria Vector Control (VCTEG) and Malaria Policy Advisory Committee (MPAC) meetings. Consolidating our findings into published manuscripts as well as WHO policy guidance is crucial for widespread uptake of the evidence-base generated from the project.

# CORE

## Objective 1: Develop and Promote Policies at International and National Levels (PC)

### PC.1 Roll Back Malaria Support

#### PC.1.A Vector Control Working Group Secretariat Support

**Brief activity description:** The annual RBM VCWG is a high-priority annual meeting for VectorWorks, as it brings together many key stakeholders around issues related to ITNs, and provides extremely valuable opportunities for intellectual sharing and learning. In past years, VectorWorks contributed to the costs of maintaining the Secretariat for the working group, hosted by the Swiss Tropical & Public Health Institute. In recent years, Swiss Development Cooperation has increased their contributions, reducing the need for VectorWorks support.

**Status:** Swiss Tropical & Public Health Institute successfully organized and conducted the annual meeting, and disseminated the proceedings through the Secretariat. In Year Four, VectorWorks did not provide any funding to the Secretariat, as Swiss Tropical had sufficient funds from other sources.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 1: PC.1.A.1, VCWG meeting organized. Completed in Year 2: PC.1.A.2, VCWG meeting organized. Completed in Year 3: PC.1.A.3, VCWG meeting organized.				
4. VCWG meeting organized and conducted; proceedings posted	Implementing partners and malaria technical community, RBM partners	Quarter 2	VCWG and greater RBM electronic mailing lists	Completed 2/8/2018

[Completed in Year Two: PC.1.B RBM Board Participation.]

#### PC.1.C Vector Control Working Group Annual Meeting Support

**Brief activity description:** RBM VCWG held their annual meeting this year in Geneva on February 7–9, 2018. VectorWorks actively participated in the meeting, presenting lessons learned from our research and pilot activities, and exchanging insights with implementers. VectorWorks used the opportunity to attend RBM VCWG to meet with PMI and partner representatives from countries supported by VectorWorks to develop priority activities for the long-lasting insecticide-treated net (LLIN) Priorities Work Stream and the New Challenges, New Tools in Vector Control Work Stream. We focused our presentations at the meeting on key ITN issues for mass campaigns, continuous distribution, net durability, and next-generation nets.

**Status:** Complete. During the 2018 annual RBM VCWG meeting, VectorWorks representatives from Johns Hopkins Center for Communication Programs (CCP) Baltimore, Ghana, and Tanzania attended, as well as from Tropical Health. At the LLIN Priorities Work Stream meeting, VectorWorks presented findings from the cost-effectiveness study for continuous distribution and mass campaigns and durability monitoring thresholds for

action, and facilitated the work stream conversations around operational considerations for rotation or mosaic distribution of next-generation nets and the prequalification processes. At the end of the work stream meeting, co-chairs led a short discussion about the 2018 work plan activities. Suggestions included (1) how to restore faith in nets, (2) evaluating at what point pyrethroid-only ITNs no longer have a public health value, (3) and how to create systems that would translate these data into answers. Both work streams facilitated conference calls during Quarter One, in preparation for in-person meetings in Geneva.

Deliverables	Audience	Timing	Dissemination Plan	Status
<p>Completed in Year 1: PC.1.C.1 and PC.1.C.2, Presentations and trip report; PC.1.C.3, Priority issues for work streams; PC.1.C.4, VCWG meeting report.            Completed in Year 2: PC.1.C.3 and PC.1.C.4, Trip report and presentations; PC.1.C.5, Work stream priority issues.            Completed in Year 3: PC.1.C.6, Presentations and trip report; PC.1.C.7, LLIN Priorities Work Stream work plan.</p>				
8. New Challenges New Tools Work Stream work plan for 2017	VCWG members, WHO/GMP, and USAID malaria implementing partners	Quarter 2	Share with PMI by email and VCWG electronic mailing list	Delayed to Quarter 3
9. Presentations and trip report 2018	PMI	Quarter 2	Email and VCWG electronic mailing list	Acknowledged by PMI: March 5, 2018
10. LLIN Priorities Work Stream work plan for 2018	VCWG members; WHO GMP; USAID malaria implementing partners	Quarter 2	Email and VCWG electronic mailing list	Delayed to Quarter 3
11. New Challenges New Tools Work Stream work plan for 2018	VCWG members; WHO GMP; USAID malaria implementing partners	Quarter 2	Email and VCWG electronic mailing list	Delayed to Quarter 3

### PC.1.D Alliance for Malaria Prevention Participation

**Brief activity description:** VectorWorks participated in the AMP annual partners’ meeting, February 5–6, 2018, to facilitate information sharing and lessons learned from mass campaigns with field implementers and global policymakers, and to share research evidence on topics of importance to ITN distribution implementers. VectorWorks will continue to participate in weekly AMP coordination calls, in regard to revisions to the AMP Mass Distribution Toolkit (see IM.12), and trainings (see IM.13.A/B), as well as participate at the AMP Core Group meeting in mid-August 2018, which is when technical assistance needs are mapped out, key ITN distribution issues are discussed, and work stream agendas are revised and prioritized.

**Status:** VectorWorks core funding supported nine VectorWorks staff to attend the AMP annual partners’ meeting. VectorWorks actively participated in the meeting, specifically through chairing a session on increasing population access, presenting on the ITN misuse drivers and next steps from Malawi, and

presenting on the trends in all-cause attrition and their causes on how many nets are actually misused. VectorWorks also participated in all of the working lunch groups on monitoring, operations research, and evaluation (MORE), emerging issues, and a discussion on school-based ITN distribution programs. VectorWorks participates on the weekly AMP coordination calls and provides updates on Liberia and Ghana, continuous distribution, and AMP Mass Distribution Toolkit chapters and trainings.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 1: PC.1.D.1, Presentations; PC.1.D.2, Trip report. Completed in Year 2: PC.1.D.3–5, Toolkit updates, AMP presentations, and trip report. Completed in Year 3: PC.1.D.6–7, Presentations, trip report for AMP annual partners’ meeting.				
8. Presentations	PMI and AMP	Quarter 2	Email and AMP electronic mailing list	Acknowledged by PMI: March 5, 2018
9. Joint trip report for AMP annual partners’ meeting	PMI	Quarter 2	Email	Acknowledged by PMI: March 5, 2018
10. Joint trip report for AMP Core Group meeting	PMI	Quarter 4	Email	On schedule: Quarter 4

## PC.2 Input into Global Policy

[Completed in Year Two: PC.2.A.1 Building the Evidence Base for Geographic Targeting of Vector Control Interventions.]

### PC.2.B Articulating the Process of Moving from Campaign to Continuous Distribution

**Brief activity description:** Based on the findings of the cost-effectiveness studies, VectorWorks will publish one or more articles highlighting the key rationale for transitioning from mass campaigns to continuous distribution. VectorWorks will also publish supporting data from various pilot studies, providing countries with recommendations on how to evaluate the distribution options (including mass campaigns and continuous distribution) that are available to them.

VectorWorks will also work with RBM’s partner support committees, Global Fund and WHO to design policy guidelines to help countries plan for whether, and how, they should transition to greater use of continuous distribution at a subnational level. VectorWorks will coordinate closely with the Global Fund and the RBM CRSPC in this process to ensure that the tools we have designed and tested and the methods we have piloted are incorporated into country strategies and concept notes for Global Fund funding. (This activity is being consolidated under PC.2.D as of Year Four.) See also ME.19, investigating a revised NetCALC tool (NetCALC Lite), which aims to provide a simplified approach to quantifying ITN needs for continuous distribution, both with and without mass campaigns.

**Status:** On hold, pending findings from cost-effectiveness analyses.

Deliverable	Audience	Timing	Dissemination Plan	Status
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Completed in Year 2: PC.2.B.2–3, Coordination meetings with GMP, Global Fund, subregional networks (SRNs), and HWG. Completed in Year 3: PC.2.B.4–5, Coordination meetings with GMP, CRSPC, Global Fund; PC.2.B.6, Support to Global Fund concept notes.				
1. Publishable-quality manuscript on transitioning to continuous distribution submitted	NMCP and national decision makers; CRSPC members and consultants; GMP; Global Fund portfolio managers; Technical Review Panel members	Quarter 1, Year 5	Publication; dissemination through VCWG electronic mailing list as well as to specific contacts within Global Fund, CRSPC, GMP, and PMI	On hold, pending findings from cost-effectiveness analysis

[Completed in Year Three: PC.2.C Policy Statement on Repurposing ITNs.]

### PC.2.D Maintaining Communication with Global Policy Stakeholders

**Brief activity description:** VectorWorks will collaborate closely with key stakeholders in global malaria policy to ensure that activities are complementary and findings are effectively disseminated at the country level. The Global Malaria Programme (GMP) is the primary institutional partner for ensuring policy uptake of project results, but VectorWorks will also stay in close communication with representatives of the Global Fund and the RBM CRSPC, which is responsible for assisting countries in accessing and maintaining access to funds from the Global Fund. Dr. Ato Selby, of VectorWorks, will continue to participate in this role, which he performed as a member of the Harmonization Working Group (HWG) prior to the formation of the CRSPC. CRSPC held fewer meetings than anticipated in Year Three, but we expect CRSPC to continue to be active in 2017–2018, and will plan on Dr. Selby participating in both global- and subregional-level meetings, with the expectation that those meetings will continue under the new mechanism. VectorWorks will also continue to have one senior manager monitor MPAC meetings and participate as needed in an observer status to identify appropriate input on ITN-related issues under discussion by MPAC.

**Status:** RBM partner committees, including the Country Regional Support committee, are now operational but moving slowly. RBM has not held the Sub-regional Network (SRN) meetings to date. Dr. Hannah Koenker is monitoring the MPAC meeting in April 2018.

Deliverable	Audience	Timing	Dissemination Plan	Status
Canceled in Year 3 (Modification 3): PC.2.D.1–2, CRSPC, SRN, and MPAC meetings.				
3. Trip reports from CRSPC and SRN meetings	PMI	Quarters 1–4	Email	On schedule

## PC.3 Promoting Key Indicators

### PC.3.A Improving Use of the ITN Population Access Indicator at the Country Level

**Brief activity description:** VectorWorks is currently drafting a paper with co-authors from the Monitoring and Evaluation Reference Group (MERG) on the importance of using the population ITN access indicator as the “best” indicator for universal coverage. This is in line with WHO guidance. WHO also requested support from VectorWorks for a consultative meeting on universal access.

**Status:** VectorWorks presented and discussed the manuscript at the October 2017 MERG meeting in Senegal, and circulated for co-author comment in early December 2017. We compiled the comments and edits over the course of Quarter Two and a final draft is ready that we will circulate to co-authors in April 2018. Dr. Koenker also presented at the WHO Technical Consultation on universal access to core malaria interventions in high-burden countries on “determinants to access for ITNs and recommendations.” The key determinants to access are the time since the last major distribution (e.g., wear and tear and ITN attrition), and household size. Larger households seldom receive the correct number of ITNs during mass campaigns, due to decisions to set a maximum number of nets based on the national average household size. At current modalities for procuring and distributing ITNs, countries will continue to fail to meet ITN coverage targets. At the meeting Dr Koenker presented recommendations for adjusting maximum nets given per household to reflect regional demographic variations. We will integrate a corresponding data file into the manuscript as an additional file, and/or disseminate it through AMP.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 1: PC.3.A.1, Training materials for MIS; PC.3.A.2, Updated HWG guidance. Completed in Year 2: PC.3.A.3, Presentation to MERG. Canceled in Year 3: PC.3.A.4, Tools for M&E program staff on the RBM and VectorWorks website. Canceled in Year 3: PC.3.A.5, Publishable paper on the new calculation of ITN access.				
6. Publishable-quality paper making the case for the population access indicator as the key universal coverage indicator for ITNs	PMI, NMCPs, malaria community	Quarter 1	<i>Malaria Journal</i>	Delayed to Quarter 3
7. TBD activity to support WHO access analysis	PMI, WHO	Quarter 1	WHO meeting	Approved by PMI: February 19, 2018

### PC.3.B Source of Nets Analysis Plan

**Brief activity description:** In Year Four, when Demographic and Health Survey (DHS), Malaria Indicator Survey (MIS), and Multiple Indicator Cluster Surveys (MICS) are released VectorWorks will make periodic updates to the report on source of nets. This report provides examples of how to use the DHS and MIS data to answer questions about the performance of a country’s ITN distribution strategy.

**Status:** We are in the process of revising the structure of the report to improve user-friendliness. Delayed to Quarter Three.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 2: PC.3.B.1, Source of nets analysis plan.				

2. Source of Net Report for PMI countries	PMI officers, NMCPs	Quarter 1	PMI, VCWG Continuous Distribution Work Stream, AMP	Delayed to Quarter 3
3. Updates to the source of nets report as new data are available in Year Four	PMI officers, NMCPs	Ongoing	PMI, VCWG Continuous Distribution Work Stream, AMP	Ongoing

### PC.3.C MERG Meeting Attendance

**Brief activity description:** Dr. Koenker and Ms. Bola Olapeju participated in the October 2017 MERG in Senegal. Ms. Olapeju presented on the source of nets report and Dr. Koenker presented on the draft manuscript on population ITN access as the “best” indicator of universal coverage.

**Status:** During the MERG, the group discussed how the revised question to determine the source of nets in DHS and MIS surveys was working. The two-stage question (asking first whether the net was obtained through major distribution channels, and then if not, other channel options are explored as possible sources) is a significant improvement. The standardized question approach now provides better clarity for ITN distributions through mass campaigns, antenatal care (ANC) and Expanded Programme on Immunization (EPI) services, and schools. Participants at the MERG received Dr. Koenker’s presentation well and MERG added the publication of the manuscript into their work plan. Several MERG members signed on as co-authors. We are waiting to hear if there will be another MERG meeting scheduled in the remainder of Year Four.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Trip report including copy of presentation(s) if on agenda	AOR	Quarters 1 and 3	PMI AOR	Trip report submitted: October 24, 2017

## PC.4 ITN Misuse for Fishing and Local Solutions

### PC.4.5 Set of Survey Instruments

**Brief activity description:** VectorWorks is revising the discussion guides and observation checklists used in the Malawi rapid assessment, incorporating key findings from the Malawi data analysis.

**Status:** VectorWorks shared draft survey instruments for input with PMI and stakeholders in October 2016 and used the survey instruments for fieldwork in February and March 2017 (see PC.4.7). We made minor revisions during the first days of fieldwork to improve usability. VectorWorks is revising the discussion guides and observation checklists used in the Malawi rapid assessment, incorporating key findings from the Malawi data analysis. These tools are complete and we will submit them with the Complete ITN Misuse Toolkit (see PC.4.9) early in Quarter Three, Year Four.

### PC.4.6 Summary Process Manual

**Brief activity description:** A key output for VectorWorks’ efforts in ITN misuse for fishing will be a short manual for PMI country teams and other stakeholders that outlines the key steps in analyzing and responding

to mosquito net fishing in their countries. The manual will describe steps for assessing the problem, setting up collaborations with other stakeholders, and planning a strategic approach to mitigation.

**Status:** On schedule for Quarter Four, Year Four.

#### **PC.4.7 Rapid Assessment in Malawi**

**Brief activity description:** To better understand the drivers behind the misuse of ITNs for fishing in Malawi, and to gauge the magnitude of the problem, VectorWorks conducted a rapid assessment in February and March 2017. This assessment included focus group discussions with community leaders (men and women), observations at fishing beaches and in markets, and key informant interviews. The results of this assessment will enable the team to work with local stakeholders to determine if and what tools and interventions to put into place.

**Status:** Complete. VectorWorks submitted the Malawi Rapid Assessment Final Report on October 23, 2017; PMI approved the report on November 21, 2017.

#### **PC.4.8 Final Decision Tree**

**Brief activity description:** This decision tree will provide a graphic depiction of the process outlined in the Summary Process Manual described in PC.4.6, with decision points highlighted and likely options (at a general level) proposed. The decision tree is an example of how the process could unfold, and should provide useful guidance to planners.

**Status:** Delayed to Quarter Three, Year Four. VectorWorks has drafted the decision tree and will submit it in Quarter Three as part of the Complete ITN Misuse Toolkit (PC.4.9). We will then incorporate the toolkit into the *Summary Process Manual* (PC.4.6).

#### **PC.4.9 Complete ITN Misuse Toolkit**

**Brief activity description:** VectorWorks will compile a Complete ITN Misuse Toolkit to share the process used and the knowledge gained from the Malawi rapid assessment, highlighting the benefits of this activity for other countries.

**Status:** Delayed to Quarter Three, Year Four.

[Completed in Year Three: PC.4.10 Malawi Planning Visit.]

#### **PC.4.11 Global Initiative Planning and Organization**

**Brief activity description:** Ms. Sara Berthe attended the Oxford policy workshop, *Resolving a wicked problem: Development of cross-sectoral policy and practice on the use of mosquito nets in small-scale fisheries*, to present and discuss the Malawi findings and participate in the initial discussions of potential solutions. Conjoined with this travel, she made a technical visit to the Fisheries and Aquaculture Department at the Food and Agriculture Organization (FAO) headquarters in Rome, Italy. Ms. Berthe and Dr. Matthew Lynch attended this meeting and advocated for FAO to take a leadership role on this issue.

**Status:** Complete. Ms. Berthe and Dr. Lynch of VectorWorks traveled to Rome, Italy, in late October 2017 to meet with FAO technical leadership, including Mr. Malcolm Beveridge, Mr. Pingguo He, and Mr. John Jorgensen to present the results of Malawi's rapid assessment and to discuss mosquito net fishing, in general. FAO is very aware of both small-mesh netting and the use of ITNs for fishing, but over-fishing is not a clear-cut issue. It is less of a problem in rivers, where species reproduce quickly, and more of a problem in lakes. FAO did not want to jump to the conclusion that mosquito net fishing is harmful, noting the lack of data to

determine the magnitude of the problem. Although smaller and younger fish are caught in the nets, there are nutritional benefits from fishing, especially for children.

Following the FAO meeting in Rome, Ms. Berthe continued to Oxford to participate in the workshop, “Resolving a wicked problem: Development of cross-sectoral policy and practice on the use of mosquito nets in small-scale fisheries policy.” Ms. Rebecca Short and the London Imperial College led the workshop at Oxford’s Martin School from October 31 to November 1, 2017. The primary goal of the workshop was to enable an open and solutions-focused discussion regarding the issue of alternative use of mosquito nets as fishing gear. The workshop brought together a mix of operational and research staff with positions closely associated with marine conservation, fisheries management, and public health/malaria prevention to represent a broad range of perspectives and expertise. Though international and human development representatives were invited, none were able to attend. Since the use of ITNs for fishing is a poorly understood issue, the workshop aimed to focus on a two-stage discussion around: (1) defining the problem and looking at what we know and do not know; (2) determining appropriate avenues for policy development going forward and reviewing existing or novel interventions that may contribute to these recommendations.

About 20 participants attended the London workshop, though there was no representation from countries directly affected by mosquito net fishing. The key takeaways from the meeting and the next steps include: (1) collecting more data to define the problem and advocate for more funding and international support; (2) approaching mosquito net fishing with a nuanced understanding—there is unlikely a one-size-fits-all solution; and (3) recruiting participation from more sectors, including from the international development and private sectors.

#### **PC.4.11.A. Identify an Institutional Home for the Global-Level Mosquito Net Fishing Initiative**

**Brief activity description:** Although the issue of ITN misuse for fishing has surfaced in the last several years, to date no one has scheduled a subnational or international meeting to bring together stakeholders from all relevant sectors to discuss the issue. VectorWorks plans to participate in and facilitate an international meeting to bring together stakeholders from a wide variety of disciplines—including biology, fisheries, malaria, and the environment—to discuss their observations and research findings related to fishing with ITNs, and to collectively assess options for mitigation of ITN fishing.

**Status:** In process. We advocated for FAO to take a leadership role by leading a steering committee on mosquito net fishing, but they were not interested. However, they would potentially become a partner on a future steering committee. Mr. Beveridge mentioned two other groups we could contact, including the African Union Interafrican Bureau for Animal Resources or the FAO’s own Committee on Inland Fisheries and Aquaculture of Africa. While these may present potential opportunities, Mr. Beveridge mentioned that these groups are not currently active. VectorWorks will continue networking to identify an institutional home and will make it an objective of *the Stakeholder Convening for Mosquito Net Fishing* (PC.4.11.B).

#### **PC.4.11.B. Stakeholder Convening for Mosquito Net Fishing**

**Brief activity description:** VectorWorks plans to participate in and facilitate an international meeting to bring together stakeholders from a wide variety of disciplines—including biology, fisheries, malaria, and the environment—to discuss their observations and research findings related to fishing with ITNs, and to collectively assess options for mitigation of ITN fishing.

**Status:** Delayed to Quarter Four, Year Four. VectorWorks continues to network with stakeholders to determine which individuals and organizations should participate in this meeting. It was critical to conclude the analysis of the Malawi rapid assessment to ensure that we did not omit any sectors or factors in the

planning this meeting. Additionally, complementary activities in VectorWorks’ Year Four work plan—especially the potential partnership with Population, Health and Environment (PHE) on the enforcement case studies (PC 4.12)—will reinforce the need for a multisectoral approach and better determine which actors to involve.

#### PC.4.12 Cross-border Enforcement Case Studies

**Brief activity description:** Given that enforcement is one of the elements that we need to consider in response to ITN misuse for fishing, VectorWorks will conduct interviews with key informants in Burundi, Tanzania, and Mozambique who can describe the policies and enforcement process of reducing mosquito net fishing and then documenting reported outcomes of these enforcement activities from each site.

**Status:** On schedule. This activity was scheduled to start in Quarter Three, Year Four and is on track. VectorWorks team members will conduct these visits during existing short term technical assistance (STTA) trips to Tanzania and Mozambique

#### PC.4.13 Identify Partnership/Inclusion of Population, Health, and Environment Projects into ITN Misuse

**Brief activity description:** VectorWorks proposes formalizing its relationship with the greater PHE umbrella of activities and working to include malaria and mosquito net fishing in discussions.

**Status:** On schedule. VectorWorks has begun reaching out to PHE projects to discuss how mosquito net fishing can fit into projects and the broader PHE theme.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 2: PC.4.1, Literature review; PC.4.2, GIS population estimate; PC.4.3, Pesticide toxicity report; PC.4.4, Small-mesh fishing gear report. Completed in Year 3: PC.4.10, Malawi planning visit.				
5. Set of survey instruments	Agreement Officer’s Representative (AOR)	Quarter 1	AOR	Delayed to Quarter 3
6. Summary process manual	PMI resident advisors, NMCPs, relevant stakeholders	Quarter 4	AOR	On schedule
7. Pilot test of qualitative instruments for Malawi with report	PMI	Quarter 1	AOR	Approved by PMI: November 21, 2017

8. Final decision tree	PMI resident advisors	Quarter 1	PMI	Delayed to Quarter 3
9. Complete ITN Misuse Toolkit	PMI	Quarter 1	PMI	Delayed to Quarter 3
11. Global Initiative planning and organization A. Trip report on Oxford policy meeting and FAO visit B. Workshop report including case studies, presentations, mitigation options, prioritized list of knowledge gaps and research needs, participant list of stakeholders	PMI and other relevant stakeholders	Quarter 3	PMI	A. Acknowledged by PMI: February 26, 2018 B. Delayed to Quarter 4 (or Quarter 1, Year 5)
12. Enforcement case study report comparing Tanzania, Malawi, Mozambique, and Burundi experiences	PMI and other relevant stakeholders	Quarter 3	PMI	On schedule
13. Report summarizing opportunities for broader partnership with implementing partners from other sectors	PMI and other relevant stakeholders	Quarter 4	PMI	On schedule

## PC.5 Malaria in Pregnancy

[Canceled in Year One: PC.5.1, US–Malaria in Pregnancy trip report.]

[Completed in Year One: PC.5.2, Trip report and presentation.]

[Completed in Year Two: PC.5.3, Advocacy strategy; PC.5.4, Malaria in pregnancy trip report.]

[Canceled in Year Two: PC5.5, follow-up malaria in pregnancy advocacy case studies.]

[Canceled in Year Three: PC.5.6, Tracking ANC attendance in Tanzania before and after ITN distribution.]

[Completed in Year Three: PC.5.7, Translate Malaria in Pregnancy Advocacy Toolkit into French.]

## PC.6 Identifying Alternative Distribution Strategies in Urban Areas

**Brief activity description:** In collaboration with the AMP Emerging Issues Working Group, in Year Two, VectorWorks led a process to describe the process of urban distribution in many countries, documenting the planning decisions and implementation challenges faced through interviews with AMP consultants and contacts in-country.

**Status:** Delayed to Quarter Three. The report is delayed, but the final version is in internal review. We will complete and disseminate the report in Quarter Three.

Deliverables	Audience	Timing	Dissemination Plan	Status
Working paper on alternative distribution strategies in urban areas	PMI, GMP, AMP, and VCWG	Quarter 1	Share by email lists	Delayed to Quarter 3

## PC.7 Maps for PBO Net Pilot Areas

[Completed in Year Two.]

# Objective 2: Design, Conduct, and Analyze Results from Monitoring, Evaluation, and Operational Research Activities to Improve Current Best Practices

## ME.1 ITN Durability Monitoring

**Brief activity description:** VectorWorks leads ongoing durability monitoring activities in the Democratic Republic of Congo, Nigeria, Mozambique, Myanmar, and Tanzania (Zanzibar). In Year Four, planning began for implementing baseline and 12-month rounds in Ghana, Liberia, and Kenya. By mid-Year Four, we completed baseline and 12-month surveys in the first five countries, and are concluding institutional review board (IRB) preparations in the three new countries. VectorWorks collaborates with the NMCP and research partners in each country to strengthen capacity for future durability monitoring. We also provide distance support to other implementing partners conducting this activity.

**Status:** VectorWorks published recommendations for action at different thresholds of results for physical and insecticidal durability in November 2017, and presented them to PMI staff and implementing partners at the ASTMH Annual Meeting on November 5–9, 2017, during the durability monitoring side meeting. VectorWorks updated the durability monitoring study manual and disseminated announcements to the mailing list.

### ME.1.3.E OpenMalaria Modeling on the PMI Pooled Durability Data Set

Dr. Olivier Briet of Swiss Tropical and Public Health Institute completed the report on findings from the pooled data from previous PMI durability studies. Dr. Briet presented the findings at VCWG during the LLIN Priorities Work Stream. Dr. Briet did this modeling study to provide ITN programs with guidance as to whether they should prioritize investment in improving physical durability, chemical durability, net use, or ITN survival. Using data from seven ITN durability studies, Dr Briet estimated impact of mass distributed ITNs in these studies on vectorial capacity, both of a pyrethroid resistant and of a susceptible *Anopheles gambiae*

population, and compared it to several hypothetical scenarios. In each hypothetical scenario one durability outcome measure was set at the best possible level while keeping the others as observed in the durability monitoring studies. This analysis suggests that non-use of study ITNs is the most important factor in reducing ITN impact on vectorial capacity over time, generally outweighing effects of attrition, hole formation (degrading physical integrity), and of decaying insecticide content. However, this conclusion is probably biased because of lack of information on the use of non-study nets. Attrition may have been reduced due to a study effect in these prospective durability studies. The impact of preventing ITN insecticide decay was larger than the impact of preventing physical decay for five out of eight ITN types. For Olyset, DuraNet, and PermaNet 3.0, the impact of preventing physical decay was generally larger (yet the impact of preventing physical decay was not significantly different from zero for DuraNet and PermaNet 3.0 in any of the studies).

### **ME.1.3.F OpenMalaria Decay Modeling**

The work for this activity is included under ME.1.3.E.

[Canceled in Year Two: ME.1.4 Resistance to Damage Score Validation.]

### **ME.1.5 Risk Index for Environmental and Behavioral Determinants for ITN Durability**

Using available data, VectorWorks has further refined a risk index that will predict the likelihood of increased ITN damage based on environmental, socioeconomic, household, and attitudinal factors. From preliminary data analysis, it seems likely that a set of factors measured at baseline will be able to predict median ITN life span reasonably well, such that different regions could be classified into higher or lower risk for net damage. VectorWorks will need to further refine the risk index after collecting 24-month data. We will also need to validate it against PMI durability data not collected by VectorWorks, which we expect to be possible in Year Five.

### **ME.1.6 Thresholds for Action**

VectorWorks published the *Interpreting Durability Monitoring Data for Programmatic Action* guidelines on October 25, 2017, and presented the thresholds and actions steps at the ASTMH Annual Meeting on November 5–9, 2017, during the durability monitoring investigator side meeting, and in a webinar on December 7, 2017. The aim of the guideline is to provide PMI with a set of references when viewing interim durability monitoring reports, in order to evaluate whether the interim results are within normal expectations, somewhat below expectations (indicating a possible problem), or far below expectations. The guidelines include subsequent investigation steps to determine the potential cause(s) of the below-expectation results, as well as action steps for specific problems identified.

[Completed in Year Two: ME.1.7 Durability Monitoring Webinar.]

### **ME.1.8 ASTMH and 7th Multilateral Initiative on Malaria (MIM) Pan African Malaria Conference Durability Monitoring Investigators' Meetings**

VectorWorks organized a meeting of durability monitoring investigators during the ASTMH Annual Meeting on November 5–9, 2017, in Baltimore, Maryland. Dr. Koenker presented updates to the durability monitoring toolkit and presented and discussed recommendations for interpreting interim results. Seventy-five people registered for the meeting and approximately 35 attended, including many PMI resident advisors and durability monitoring implementing partners. Questions and points raised during the meeting included the need to take use into account when assessing factors associated with increased or decreased life span; how to target messages to NMCPs that may want to use results (preliminary or otherwise) to positively select a certain net product; considering timing of fieldwork rounds vis-à-vis local farming and travel schedules; how

countries compile and share data; and if any countries are monitoring “naked nets” or nets without packaging. The meeting was a chance to reinforce the basic principles of durability monitoring and clarify definitions of the major indicators of attrition and surviving nets.

### **ME.1.9 Durability Monitoring Capacity-Strengthening Case Study**

VectorWorks drafted a case study about capacity strengthening in Mozambique for durability monitoring in Quarter One. We are revising it to include examples from additional countries and will submit it in Quarter Three.

### **ME.1.10 Durability Monitoring Webinars Year Four**

VectorWorks hosted a webinar on December 7, 2017, to introduce the *Interpreting Durability Monitoring Data for Programmatic Action* guidelines, described in ME.1.6. We are exploring additional webinars in English and French to assist PMI countries that are starting up monitoring, in collaboration with VectorLink, for Quarters Three and Four.

### **ME.1.11 Testing Insecticidal Content of Stored Attrition, Bioefficacy, Chemistry, Degradation, and Insecticide Resistance (ABCDR) ITNs**

VectorWorks has identified several bales of stored ITNs (three different brands) that have been in ideal storage conditions for over four years, currently in Bagamoyo, Tanzania, for the ABCDR project. Maximum daily temperature recordings are available for the warehouse for the entire period. We are exploring the possibility of testing a subsample of each brand (cone bioassay) to generate data on bioefficacy after long-term storage. We completed the sample size and cost calculations and will follow up with Ifakara Health Institute in April 2018. VectorWorks has discussed this activity description with the AMP Emerging Issues Working Group (EIWG) members since the EIWG is working on ITN container issues. VectorWorks will share the results with the EIWG team as they are finalized.

<b>Deliverables</b>	<b>Audience</b>	<b>Timing</b>	<b>Dissemination Plan</b>	<b>Status</b>
<p>Completed in Year 2: ME.1.1, Guidelines for data collection; ME.1.2, Standardized tools for data analysis and reporting.            Canceled in Year 2: ME.1.4, Resistance to damage score validation.            Canceled in Year 3: ME.1.3.C, public data repository (data will not be made public).            Completed in Year 3: ME.1.2.D–ME.1.2.E, Publication guidance and key indicator submission, ME.1.3.A, Data sets submitted to PMI; ME.1.3.B, Data submission guidelines; ME.1.3.D, Eight-country pooled data cleaning, ME.1.7 Webinar on use of durability monitoring toolkit.</p>				
3.E–F. Model pooled eight-country PMI data with Swiss TPH	PMI, durability monitoring principal investigators, NMCPs, CDC, other durability monitoring stakeholders	Quarter 1	Email	Approved by PMI 3/15/2018
5. Develop an index for environmental and behavioral risk	PMI, durability monitoring principal investigators, NMCPs, CDC, other durability	Year 5	PowerPoint summary via email	On schedule

Deliverables	Audience	Timing	Dissemination Plan	Status
	monitoring stakeholders			
6. Thresholds for action document	PMI country teams, WHO/GMP & PQ, DM investigators, private sector manufacturers	Quarter 1	Durabilitymonitoring.org; PMI listserv	Finalized and published October 25, 2017; submitted February 23 2018; awaiting approval
8. ASTMH durability monitoring principal investigators' meeting	PMI, durability monitoring principal investigators, NMCPs, CDC, other durability monitoring stakeholders	Quarter 1	Email to PMI	Completed November 6, 2017
9. DM capacity-strengthening case study	PMI	Quarter 1	VectorWorks website, electronic mailing lists	Delayed to Quarter 3
10. Webinars promoting use of standardized processes and tools and data interpretation	PMI, durability monitoring principal investigators, NMCP officers	Quarter 3	Email to PMI, NMCP, implementing partner, principal investigators	First webinar completed December 7th 2017; next planned for Quarter 3
11. Insecticidal content and bioassay testing for ABCDR stored nets	PMI	Quarter 2	Email	Delayed to Quarter 3

## ME.2 Alternative Vector Control Tools

[Completed in Year One: ME.2.A Landscape Report on Alternative Vector Control Tools.]

### ME.2.B Quarterly Updates on Alternative Tools

**Brief activity description:** Since July 2015, VectorWorks has disseminated a quarterly newsletter that summarizes findings from relevant studies and highlights possible interpretations and implications, including gender considerations for new tools, when applicable. To develop the newsletter, we use a systematic search in key databases to identify literature from the last three months on alternative tools and paradigms identified in the *Landscape of New Vector Control Products*. We present the summary of findings in a user-friendly newsletter format that enables readers to quickly scan for key new developments and study, in

detail, the referenced literature. We share, through the VectorWorks and PMI websites, each quarterly update to the general VCWG mailing list and PMI field staff and headquarters staff.

**Status:** The quarterly update is ongoing; every three months we review, summarize, format, and disseminate new articles. VectorWorks released the first report of Year Four in February 2018 covering October to December 2017. In May 2018, we will release a report that will include the articles from Quarter One (July - September 2017). The updates include suggestions from the user survey from Year Three: a WHO Pesticide Evaluation Scheme box highlighting any products (for example, piperonyl butoxide and next generation nets that receive interim or full approvals, and links to relevant new policies and guidance issued by WHO.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 1: ME.2.B.1, Two newsletters. Completed in Year 2: ME.2.B.2, Four newsletters. Completed in Year 3: ME.2.B.3, Four newsletters; ME.2.B.4, User survey.				
5. Quarterly newsletter summarizing recent literature on alternative vector control tools (electronic format)	Innovative Vector Control Consortium, VCWG, PMI technical and resident advisors, implementing partners	Oct, Jan, April, July	VCWG electronic mailing list, potentially also to PMI Field and Core electronic mailing lists; link on PMI website; post to VectorWorks and RBM websites	Ongoing

## ME.3 Issues in Costing ITN Distribution

### ME.3.A Continuous Distribution Costing Analysis

**Brief activity description:** Building on the work in Ghana, VectorWorks conducted cost analyses of school-based, health facility-based, and community-based distribution programs—either as a stand-alone strategy (for example, school-based distribution in Tanzania and health facility-based distribution in Mali) or in combination with other strategies (for example, in Ghana and Zanzibar).

**Status:** VectorWorks submitted the reports for the Tanzania School Net Program Round 3 (SNP3), Zanzibar, and Mali and received approval from PMI. We submitted the Ghana report to PMI and we are in the process of reviewing the Tanzania health facility costing report. The fifth round of the Tanzania School Net Program ran in early Year Four (November 2017), and Ms. Sara Scates will travel to Tanzania to collect financial data and validate estimates of government contributions in April 2018. The manuscripts are in progress; the summary manuscript, led by Ms. Scates, is furthest along and we expect to submit it for internal review in Quarter Three.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 2: ME.3.A.2, Tanzania School Net Program costing report; ME.3.A.5, Zanzibar costing report. Canceled in Year 2: ME.3.A.1, Madagascar costing report. Completed in Year 3: ME.3.A.4, Mali costing report.				

Deliverable	Audience	Timing	Dissemination Plan	Status
3. Ghana health facility costing update	VectorWorks project team, PMI AOR	Quarter 1	Internal report for preparation of a summary report or article	Submitted: February 23, 2018
6. Mainland Tanzania health facility costing report	VectorWorks project team, PMI AOR	Quarter 1	Limited internal report for Malaria Operational Plan planning and for preparation of a summary report or article	In process
7. Summary manuscript for continuous distribution costs based on deliverables 1–6	HWG consultants, PMI leadership, PMI resident advisors	Quarter 2-3	Manuscript	In process
8. Manuscript of meta-analysis comparing continuous distribution and mass campaign costs	Donors and implementers	Quarter 4	Manuscript	In process
9. Manuscript connecting continuous distribution costs to transmission modeling	Donors and implementers	Quarter 4	Manuscript	In process
10. Tanzania: Costing School Net Program Round 5 (SNP5) and comparison to School Net Program Round 2 (SNP2): measuring the gains of learning by doing	VectorWorks project team, PMI AOR	Quarter 3– Quarter 4	Internal report for preparation of a summary report or article	On schedule

### ME.3.B Experimental Auctions

**Brief activity description:** Dr. Chris Gingrich completed a first paper from the Tanzania Discrete Choice Experiment data in Year Three. In Year Four he explored the variation in willingness to pay for treated versus untreated nets in more detail, including demographics, socioeconomic status, ideation, gender, and rural or urban status. Key findings included that the impact of price in purchase decision-making was negative, but small with price elasticity between 0.25 and 0.45. Key preferences related to increased willingness to pay included size, insecticide treatment and rectangular shape.

**Status:** The analysis did not indicate any further major findings, beyond what VectorWorks had already published, so we will request to cancel this deliverable.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 2: ME.3.B.1, Trip report. Completed in Year 3: ME.3.B.2, Study report; ME.3.B.3, Paper #1.				
4. Discrete choice experiment paper #2	Donors and implementers	Quarter 1	Manuscript	This deliverable will be canceled in the next modification

**ME.4 External Review of a Durable Wall Lining Study in Tanzania**

[Completed in Year One: ME.4.1, Trip report.]

[Completed in Year Two: ME.4.2, Trip report.]

**ME.5 Continuous Distribution Evidence Base**

[Completed in Year Two: ME.5.A NetCALC 3.0.]

**ME.5.B Dissemination of NetWorks Continuous Distribution Findings: Papers on Continuous Distribution Pilots in Madagascar, Ghana, South Sudan, and Nigeria**

**Brief activity description:** VectorWorks is publishing intervention descriptions and results from the Madagascar, Ghana, and South Sudan continuous distribution pilots.

**Status:** VectorWorks submitted the Ghana Eastern Region paper to *Malaria Journal* in October 2017. We received comments and addressed them in March 2018 and the journal published the paper in the same month. We will schedule the webinar after the *Global Health: Science and Practice* journal publishes the Nigeria Cross River paper (see ME.6). We will prepare the evidence review for WHO Technical Expert Group on Malaria Vector Control (VCTEG) in late Year Four or early Year Five after completing the costing papers.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 1: ME.5.B.3, Nasarawa continuous distribution report. Completed in Year 3: ME.5.B.1, Madagascar community-based distribution pilot; ME.5.B.4, South Sudan community-based pilot				
2. Publishable-quality manuscript on school-based distribution in the Eastern Region of Ghana	NMCPs, HWG and HWG consultants, VCWG, PMI	Quarter 1	Peer-reviewed journal, VCWG	Published March 23, 2018
5. Webinar summarizing results of published studies	NMCPs, HWG and HWG consultants, VCWG, PMI	Quarter 2	Webinar	Delayed to Quarter 3
6. Evidence review at VCTEG	VCTEG	Late Year 4–Year 5	VCTEG minutes	On schedule

## ME.6 Publication Fees for NetWorks Articles

**Brief activity description:** VectorWorks will complete several articles drafted during the NetWorks Project.

**Status:** VectorWorks received and addressed comments on the Nigeria Cross River school distribution paper in January 2018 and the *Global Health: Science and Practice* journal promptly accepted the paper. The journal sent copyedited proofs to VectorWorks for review on April 12, 2018. We drafted the results tables for the Hole Index paper and will focus on completing the narrative during the second half of Year Four.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 1: ME.6.2, Hang up; ME.6.3, Ghana outdoor sleeping; ME.6.4, Nigeria durability; ME.6.5, Uganda care repair. Completed in Year 2: ME.6.1, Campaign strategies paper.				
6. Nigeria Cross River schools (final draft completed in Year 1, rejected from <i>Malaria Journal</i> in Year 2, revised and submitted to <i>Global Health: Science and Practice</i> journal late in Year 3)	Malaria technical community, PMI	Quarter 1	Peer-reviewed journal, VCWG	Completed 7/31/2017; in press at GHSP
7. Hole Index Methods (first draft completed in Year 1)	Malaria technical community, PMI	Quarter 4	Peer-reviewed journal, VCWG	On schedule

## ME.7 Subnational Analysis of Use-to-Access Ratio

**Brief activity description:** VectorWorks is collaborating with DHS Program, using DHS and MIS data sets and rainfall data to more closely examine rates of ITN use and access based on subnational time frames for dry season, early rains, and late rains. We will analyze all PMI countries within the last five years (where data are available). We also continue to update the *ITN Access and Use Report* and associated maps with new data as they become available, working with Breakthrough ACTION to disseminate the findings more widely.

**Status:** VectorWorks worked closely with Ms. Cameron Taylor at the DHS Program to extract ITN use and access data from 35 data sets, and to extract rainfall data by cluster for each of the survey fieldwork periods. We have made considerable progress in Quarters One and Two, building upon the previous work. We shared preliminary data from the seasonal analysis at the ASTMH Annual Meeting as well as during the ITN Use and Access webinar hosted by Breakthrough ACTION in February 2018, where we highlighted the importance of subnational audience segmentation, particularly as it relates to seasonality of ITN use. We will prioritize finalization of the subnational analysis paper after submitting the ITN Access paper to a journal in Quarter Four.

VectorWorks continues to update the *ITN Access and Use Report* as the DHS Program releases new data. We posted updates in September 2017, October 2017, and January 2018. We will post the next update in April 2018.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 1: ME.7.1, Year One's <i>ITN Access and Use Report</i> . Completed in Year 2: ME.7.3, Year Two's <i>ITN Access and Use Report</i> ; ME.7.4, Annex with maps. Completed in Year 3: ME.7.5, Year Three's <i>ITN Access and Use Report</i> , with maps.				
2. Publishable-quality paper analyzing use-to-access ratio by season	Malaria technical community	Quarter 2	VCWG, <i>Malaria Journal</i>	Delayed to Quarter 4
6. Updated PMI report on access indicator showing stratification by region, season, and risk group, with updated maps	PMI resident advisors, AMP, VCWG, SBCC Working Group	Ongoing updates to be made as new data sets are released; Quarter 2 before Malaria Operational Plan season	AOR to circulate to wider PMI team and resident advisors; in-country presentations during technical advisor visits	Ongoing

**ME.8 Operations Research**

[Completed in Year Two: ME.8.A Expert Committee Meeting; ME.8.B Concept Notes and IRB Preparation for Identified Study Topics.]

**ME.9 Net Preference Literature Review**

[Completed in Year Two: ME.9.1, Net preferences literature review for VCTEG.]

[Completed in Year Three: ME.9.2, Paper published.]

**ME.10 Break-Even Analysis for Procurement of Conical Nets**

[Completed in Year Two.]

**ME.11 Characterizing Risk of Outdoor Malaria Transmission**

**Brief activity description:** In Year Three, VectorWorks reviewed published literature on human behavioral drivers of residual malaria transmission. The review included searches through PubMed and cited references in identified articles. We selected studies for inclusion if they included a malaria endemic setting in sub-Saharan Africa and a description of specific human behaviors occurring during times when malaria transmission can occur. In Year Four, VectorWorks will finalize the review for publication in a peer-reviewed journal.

**Status:** In the first half of Year Four, VectorWorks completed the review and shared the document internally for input, including through the CCP Malaria Community of Practice. We will finalize the document, format it for publication, and submit it to PMI in Quarter Three.

Deliverables	Audience	Timing	Dissemination Plan	Status

1. Publishable-quality review of literature on outdoor malaria transmission, characterizing outdoor activities that may present risks for malaria transmission, via Outdoor Transmission work stream	PMI and VCWG	Quarter 1	Peer-reviewed publication	Delayed to Quarter 3
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## ME.12 Revisions to the Malaria SBCC Indicator Guide

**Brief activity description:** VectorWorks updated the guide based on feedback from members of the RBM SBCC Working Group. Key changes include the addition of data sources other than large national surveys, addressing the contribution of health care provider behaviors, updating knowledge indicators to reflect diagnostics, and guidance on how to select and prioritize indicators. The guide also contains mini-case studies/examples of how various countries and programs have used and adapted the content in the guide.

**Status:** PMI approved the content for the guide at the end of Year Four. VectorWorks funded the copyediting and handed it over to CCP’s Health Communication Capacity Collaborative (HC3) for French and Portuguese translation. After translation, HC3 modified the documents to meet 508 accessibility standards.

Deliverables	Audience	Timing	Dissemination Plan	Status
1. Revised <i>Malaria SBCC Indicator Guide</i>	PMI, SBCC WG, and AMP	Quarter 2	SBCC WG, Springboard, AMP, and RBM	Completed 9/28/2017, then translated

## ME.13 IRS and ITN Technical Assistance

[Completed in Year Two: ME.13.1, ITN use in the context of IRS report.]

## ME.14 Residual Transmission Meeting Planning

**Brief activity description:** In Year Four, VectorWorks is working with the VCWG New Challenges, New Tools Work Stream to coordinate information sharing on methods and best practices for residual malaria transmission research. This includes participation in a workshop on residual malaria transmission in sub-Saharan Africa funded by the World Health Organization Special Programme for Research and Training in Tropical Diseases (TDR). This activity was put forward by the VCWG New Challenges, New Tools Work Stream and included in the Work Steam's 2017/2018 work plan.

**Status:** VectorWorks participated in the TDR workshop held in November 2017 in Dar es Salaam, Tanzania, which was hosted by Ifakara Health Institute (IHI). The workshop brought together over 40 experts on residual malaria transmission, representing more than 20 countries and all WHO regions. The workshop included presentations on results from residual malaria transmission studies across a variety of settings, and discussion around key issues for residual malaria transmission research. VectorWorks shared a detailed trip report on the meeting in December 2017.

Based on the success of this meeting TDR indicated interest in funding additional workshops on this topic in the future. TDR is providing a platform for discussion and information sharing on this topic, therefore VectorWorks will continue to coordinate with the VCWG New Challenges, New Tools Work Stream, TDR, and

other organizations engaged in residual malaria transmission activities. VectorWorks will not plan a separate meeting at this time and will continue to contribute actively through the existing platforms.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 3: ME.14.2 VCWG work stream presentation.				
1. Planning memo for expected attendees and outputs of an African Outdoor Transmission Network workshop	PMI, VCWG	To be determined	Email to PMI and Network members	Carried out by TDR
3. Report on key outcomes of the residual malaria transmission workshop	PMI, VCWG	Quarter 4	Email to PMI and work stream members	Submitted to PMI on December 12, 2017, and acknowledged January 3, 2018

## ME.15 Counterfeit Nets

**Brief activity description:** Anecdotal evidence suggests that in a number of countries, counterfeit ITNs and nets with misleading labeling (e.g., untreated nets suggesting that they are ITNs) have appeared in markets. However, little is known about the severity and magnitude of this problem or whether it requires greater attention from VectorWorks, PMI, or the malaria community in general. This activity aims to provide qualitative and semi-quantitative data for this question from three countries: Nigeria, Tanzania, and Ghana. VectorWorks conducted fieldwork in Nigeria and Tanzania in Year Three. Study activities slated for Year Four include: data collection in Ghana, compilation of results, and development of a summary report for all three countries.

**Status:** In February 2018 VectorWorks conducted fieldwork in Ghana. Teams visited central net/ITN markets in Ashanti and Greater Accra to screen for suspicious nets. Teams also conducted key informant interviews among ITN distributors and retailers and relevant government officials. VectorWorks will complete the summary report for all three countries in Quarter Three (June 2018) and will characterize (1) the magnitude of counterfeiting as a problem in each country; (2) the types of counterfeiting violations in categories, such as copyright infringement or false advertising, that may be useful for considering enforcement actions; (3) the source of the violation, whether domestic or international (if possible); (4) the extent to which the local laws address these violations; and (5) which agencies in the country are responsible and to what extent they have acted on such violations in the past. These five factors will then inform the range of potential interventions that PMI and/or other partners might then be able to act upon in the future.

Deliverables	Audience	Timing	Dissemination Plan	Status
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1. Summary report from three countries; recommendations for next steps	PMI and VCWG	Quarter 2	Share by email	Delayed to Quarter 3
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## ME.16 Secondary Analysis of Net Use in Key Countries

**Brief activity description:** ITN use-to-access ratios are below target levels in a number of sub-Saharan African countries. A more nuanced understanding of the driving factors underlying subpar use-to-access ratios is important to efficiently plan ITN distribution and to inform the design of SBCC strategies in these settings. PMI Ghana, PMI Nigeria, and their partners requested this information. In Year Three, VectorWorks drafted a memo for Ghana using the 2014 DHS data, prior to the release of the 2016 MIS data sets.

**Status:** VectorWorks submitted the updated Ghana Malaria Indicator Survey (MIS) 2016 report on ITN use in Quarter One and the Nigeria 2015 MIS report on ITN use in Quarter Two. Specific analyses covered in the reports included the following:

- Net use by gender and age
- Net use in indoor residual spray (IRS) areas and comparable non-IRS areas
- Net use and prevalence, as a proxy for perceived malaria risk
- Net use and season

The results provide an evidence base for specific recommendations on how to address and/or mitigate the low use rates.

Deliverables	Audience	Timing	Dissemination Plan	Status
1. Ghana 2014 DHS report on ITN use	PMI and NMCP	Quarter 1	Share by email	Update report including the 2016 MIS data approved by PMI 10/19/2017
2. Nigeria 2015 MIS report on ITN use	PMI and NMCP	Quarter 1	Share by email	Submitted to PMI 2/7/2018

## ME.17 Who Buys Nets: A Multi-Country Analysis

**Brief activity description:** To better understand the current role and extent of ITN purchases, VectorWorks will conduct a multi-country analysis of who buys nets—by socioeconomic status, urban or rural status, level of education, and any other key demographics that are identified. Where available, we will include trends over time. We have 12 countries included in the source of net report and these will be the countries included in the paper.

**Status:** VectorWorks presented a poster for this activity at the ASTMH Annual Meeting in Quarter One. The analysis and manuscript writing is ongoing and is scheduled to be completed in Quarter Three.

Deliverables	Audience	Timing	Dissemination Plan	Status
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1. Publishable-quality paper on who buys nets; a multi-country analysis	PMI, The Global Fund, DFID, and NMCPs	Quarter 3	Share by email	In process
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## ME.18 Age and Gender Patterns of ITN Use

**Brief activity description:** Previous analyses have indicated that ITN use patterns by age and gender reveal important trends when stratified by household ITN supply. VectorWorks will analyze data sets from PMI countries to produce graphs of ITN use by age group and gender, stratified between households that own enough ITNs and those that own one ITN but not enough. We will also present the findings in a manuscript to illustrate any gender or age gaps and programming implications.

**Status:** VectorWorks drafted the manuscript in Quarter Two and included analysis of MIS and DHS data from 27 countries. The manuscript includes country-level graphs of ITN use by age group and gender, country-level adjusted odds ratios of ITN use among household members controlling for household ITN supply, and a meta-analysis of the adjusted odds ratios across all countries. As anticipated, most countries consistently prioritized ITN use for children under five and women of reproductive age and ITN use is lowest among school-aged children. The authors are making final revisions on the manuscript and we plan to submit it to PMI in Quarter Three.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Publishable-quality paper on age and gender patterns of ITN use, a multi-country analysis	PMI, Global Fund, DFID, NMCPs	Quarter 2	Email, online publication	Delayed to Quarter 4, in process

## ME.19 NetCALC Lite

**Brief activity description:** VectorWorks is investigating the usability issues with the current version of the NetCALC tool and training package and designing a more user-friendly Microsoft Excel-based tool. This entails gathering inputs from users of NetCALC, reimagining the tool to make it more user-friendly, hiring an expert in Excel with skills in front-end design, usability testing, data visualization, and launching the “new” NetCALC Lite.

**Status:** VectorWorks completed a report on the consultation findings after interviewing multiple stakeholders (e.g., VectorWorks staff, developers, NMCP staff, RBM CRSPC, and Global Fund) who were either current or potential users of the tool. This required defining the consultation process, developing study tools, conducting the interviews, and analyzing the data. In February 2018, the team released a request for proposals and later selected a developer to work on improving the tool’s user interface (UI); however, the candidate later withdrew his application. The team is in the process of selecting a new UI developer to improve the UI according to a specific set of specifications.

Deliverable	Audience	Timing	Dissemination Plan	Status
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1. NetCALC Lite	NMCPs, HWG and HWG consultants, VCWG, PMI	Quarter 4	VectorWorks channels (e.g., email, website), Continuous Distribution Toolkit, NMCPs, CRSPC, AMP, VCWG, PMI	In process
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## ME.20 Net Motion Sensor Study

**Brief activity description:** VectorWorks will conduct laboratory testing to validate the ability of a net motion sensor to accurately describe human behavior as it relates to ITN use. Specifically, we expect motion sensors to determine four key actions: (1) when nets are tied up, (2) when nets are untied or unfurled, (3) when nets are entered and exited, and (4) when the bed is occupied. VectorWorks will develop a model to interpret the motion sensor data and distinguish and differentiate the actions. VectorWorks will test the model to ensure that it correctly interprets at least 85% of the actions for each of the key activities.

Phase Two implementation will be contingent on successful outcomes from Phase One testing. Given the timeframe VectorWorks will not be implementing any potential Phase Two activity, and the country for any implementation is yet to be determined by CDC/PMI.

**Status:** In Year Four, VectorWorks carried out a bidding process in July 2017, selected Liverpool School of Tropical Medicine as a research partner, and set up a contract. Liverpool developed a protocol for Phase One based on the request for proposals and input from PMI/CDC and CCP, and submitted to Liverpool’s IRB in October 2017. VectorWorks also submitted an IRB authorization form to Johns Hopkins University’s IRB at that time, allowing CCP to defer to Liverpool’s IRB. Liverpool received three rounds of comments from the IRB committee, which delayed Phase One lab testing. VectorWorks worked with Liverpool to address the comments and revise the study protocol and tools. VectorWorks also facilitated bi-weekly conference calls to facilitate discussion and coordination throughout the process. We expect to submit the final IRB application in April 2018. We will complete lab testing, analysis, and reporting in the second half of Year Four. Development of the Phase Two protocol is on hold, pending the results of Phase One lab testing. VectorWorks will not implement any Phase Two fieldwork as a result of the delays in the Phase One IRB approval process.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Report on Phase 1 methods and results	PMI	Quarter 2	Email to PMI	Delayed to Quarter 3
2. Phase 2 research protocol	PMI	Quarter 2	Email to PMI	On hold pending results of Phase 1 lab testing

## Objective 3: Promote and Support Country-Level Implementation of Malaria Prevention Activities (IM)

### IM.1 Revise the ANC-EPI Guide (“Keep-Up Guide”)

[Canceled in Year Two; included in IM.8, Continuous Distribution Toolkit.]

### IM.2 Community Distribution Guide

[Completed in Year Two.]

### IM.3 Usability Testing for Online Continuous Distribution Toolkit

[Completed in Year Two.]

### IM.4 Integrating Care SBCC into Implementation

[Completed in Year Two.]

### IM.5 Designing Accountability Mechanisms for ITN Distribution

[Completed in Year Three.]

### IM.6 Update School Distribution Guide

[Canceled in Year Two; included in IM.8, Continuous Distribution Toolkit.]

### IM.7 Assessing the Utility of Validation Exercises for School Distribution

[Completed in Year Three.]

### IM.8 Online Continuous Distribution Toolkit

[Completed in Year Two: IM.8.1, Continuous Distribution Toolkit outline.]

[Completed in Year Three: IM.8.2, Continuous Distribution Toolkit.]

#### IM.8.3 Decision Tree for ITN Distribution

**Brief activity description:** VectorWorks will draft a decision tree that will take users through a series of questions that will ultimately result in a suggested output of viable mass and continuous distribution options.

**Status:** VectorWorks drafted the decision tree, which is undergoing an internal review. We will submit the decision tree in Quarter Four.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 2: IM.8.1, Continuous Distribution Toolkit outline. Completed in Year 3: IM.8.2, Continuous Distribution Toolkit.				
3. Continuous Distribution Toolkit decision tree	Implementing partners, PMI, NMCP	Quarter 3	Toolkit, email, newsletter, social media, webinars, electronic mailing lists	Delayed to Quarter 4

## IM.9 Private Sector Approaches and Considerations

[Completed in Year Three: IM.9.1 Private Sector Model Design; IM.9.2 Landscape Market Analysis; IM.9.3 Operational Issues for the Introduction of Next-Generation Nets; IM.9.4 Manufacturer Follow-Up.]

## IM.10 ITN Distribution Technical Assistance Emergency Fund

[Completed in Year Two.]

## IM.11 Determining Minimum Data Requirements for Mass Distribution Campaigns

**Brief activity description:** VectorWorks will support an AMP consultant to complete the documentation of current practices and data requirements for mass campaign distribution through finalizing a desk review and analysis of survey data across relevant stakeholders. The consultant will consolidate key findings and share them with the MORE Working Group for discussion and input. Finally, the consultant will work with the Minimum Data Requirements Work Stream co-chairs to produce a guidance document and build consensus around minimum data requirements and data management for mass distribution campaigns.

**Status:** In Quarters One and Two of Year Four, VectorWorks completed a bidding process and identified an AMP consultant to support the minimum data requirements activity. The AMP consultant completed the document review, analyzed online survey data, and conducted follow-up key informant interviews. VectorWorks and the AMP consultant presented preliminary findings at the MORE Working Group meeting at the AMP annual meeting in February 2017. The AMP consultant drafted a report based on the findings and key recommendations. VectorWorks provided significant input on the report and facilitated regular conference calls with the consultant and Minimum Data Requirements Work Stream co-chairs throughout the process. We will complete the final report and share it with PMI and the MORE Working Group in the second half of Year Four.

Deliverable	Audience	Timing	Dissemination Plan	Status
Report summarizing key findings and recommendations for minimum data requirements	PMI, AMP, national governments, country implementing partners	Quarter 4	Email, PMI, and AMP electronic mailing list	On schedule

## IM.12 AMP Mass Distribution Toolkit, Third Revision

**Brief activity description:** VectorWorks is working with AMP to update their Mass Distribution Toolkit. VectorWorks' update of the toolkit focuses on the communication chapter, including advocacy, as well as the microplanning and training briefs.

**Status:** VectorWorks is working with three highly specialized and experienced consultants to complete the draft communication, microplanning, and training briefs. VectorWorks has updated eight briefs for the communication chapter, including an advocacy brief. The finalization of these draft communication briefs continues as we receive feedback. We received a first draft of the microplanning brief and an outline for the microplanning brief. Because of multiple demands of these consultants outside this project, the process of drafting the briefs has taken longer than planned. VectorWorks' aims to move forward with these briefs and submit draft chapter materials in Quarter Three, Year Four.

Deliverables	Audience	Timing	Dissemination Plan	Status
1. Draft text for communication chapter of toolkit	PMI, AMP, national governments, country implementing partners	Year 3, Quarter 4	Email PMI and AMP	Delayed to Year 4, Quarter 4
2. Draft text for the microplanning section of the toolkit	PMI, AMP, national governments, country implementing partners	Year 3, Quarter 4	Email PMI and AMP	Delayed to Year 4, Quarter 4
3. Draft text for advocacy section of the toolkit	PMI, AMP, national governments, country implementing partners	Year 3, Quarter 4	Email PMI and AMP	Delayed to Year 4, Quarter 4
4. Draft text for the training section of the toolkit	PMI, AMP, national governments, country implementing partners	Year 3, Quarter 4	Email PMI and AMP	Delayed to Year 4, Quarter 4

## IM.13 Training for Improved ITN Distribution

### IM.13.A AMP Consultants Training

**Brief activity description:** VectorWorks will support AMP in organizing and facilitating a refresher training for the AMP consultants on updated best practices for mass and continuous distribution. The training will focus on the contents of the updated AMP Mass Distribution Toolkit and the recently completed Continuous Distribution Toolkit. The objectives of the training include reviewing AMP activities and the challenges and lessons learned, reviewing and agreeing on reporting requirements, reinforcing skills and practices around macroplanning, budgeting and finance management, microplanning, training, logistics and rapid monitoring of household registration, communication and determining the best way to share documents and resources among the AMP consultants.

**Status:** The training took place in Geneva, Switzerland, at the International Federation for the Red Cross from January 31 to February 3, 2018. Fifteen of the most knowledgeable consultants in the area of ITN mass campaigns came together for a four-day refresher training which covered all of the critical steps involved in a mass ITN campaign along with an introduction to continuous distribution. The training enabled the consultants an opportunity to share lessons learned on distributing ITNs across countries, as well as select the best tools, templates, and AMP recommendations for countries. The participants had overwhelmingly positive feedback and reported that the objectives of the training were “achieved” or “mostly achieved”. A key output of the training was creating an internal knowledge management system to help in the continuous sharing of knowledge and best practices among AMP consultants.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Translated training materials in English, French, and Portuguese	PMI, AMP	Quarter 2	Email to PMI and AMP, AMP website, VectorWorks website	Canceled in Modification 1, Year 4, approved May 8, 2018
2. AMP consultant training report	PMI, AMP	Quarter 2	Email to PMI and AMP	Submitted on March 30, 2018

**IM.13.B Regional NMCP and Partner Trainings**

**Brief activity description:** VectorWorks will support two regional trainings (one in English, one in French) for countries that have mass campaigns planned for 2019 and 2020. Each of the regional trainings will be four days in length and will focus on the critical steps in a mass campaign such as macroplanning, microplanning, M&E, logistics, SBCC, leadership and management, and continuous distribution. The trainings will highlight successful country experiences and package them for replication, to ensure the use of lessons in future campaigns.

**Status:** VectorWorks planned to support the regional trainings in Year Four, but we have postponed them to early Year Five in order to meet the organizers’ schedules and to ensure enough time to thoroughly prepare for the trainings. The dates for the English training will be November 5–9, 2018, and the French training will take place on November 26–29, 2018. Each training will be four days in length and co-facilitators will include VectorWorks, International Federation for the Red Cross (Marcy Erskine, Melanie Caruso), and selected AMP consultants. Participants will include representatives from invited countries who have scheduled ITN mass campaigns for 2019 and 2020. Although we have not yet finalized the list of countries to invite, VectorWorks and AMP have prioritized 16 English-speaking and 18 French-speaking countries who have upcoming campaigns.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Training curriculum	PMI, NMCP	Quarter 1	Email	Delayed to Quarter 4: Due to the busy mass campaign schedule, the regional training will take place in Year 5.
2. Finalized training materials	PMI, NMCP	Quarter 3	Email	Delayed to Quarter 4: Due to the busy mass campaign schedule, the

Deliverable	Audience	Timing	Dissemination Plan	Status
in English and French				regional training will take place in Year 5.
3. Anglophone training report, Francophone training report	PMI, NMCP, implementing partners	Quarter 4	PMI, NMCP, updated resources added to the AMP Mass Distribution Toolkit and Continuous Distribution Toolkit	Delayed to Quarter 1, Year 5

### IM.14 Planning Ahead for Mosaic or Rotation Distribution of Next-Generation Nets

**Brief activity description:** In collaboration with Innovation to Impact (i2i) and AMP, VectorWorks will draft a document that describes the practical mechanics required to manage ITN distribution in household-level mosaics, village-level mosaics, and district-level mosaics. The first step is to consider mass campaign scenarios. The second step is to consider combinations of ITN channels and how these might affect the same desired mosaic level.

**Status:** We have initiated discussions with i2i and AMP and will move forward in Quarter Three.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Report on operational considerations for various mosaic or rotation distribution strategies being modeled for next-generation nets	PMI, VCWG, VCTEG	Quarter 3	Email	In process

### IM.15 Support to Roll Back Malaria SBCC Working Group

#### IM.15.1 Co-Chair Key Task Forces

**Brief activity description:** VectorWorks staff serve as co-chairs on two task forces, Vector Control and M&E, and on the steering committee. In Year Four, VectorWorks continues to ensure strong leadership of these two task forces by coordinating task force conference calls, hosting webinars on key topics of interest for members, and liaising with outside working groups. Each task force aims to hold at least five webinars or conference calls, including a topic discussed on the SBCC Working Group’s general call. The task force co-chairs will facilitate WhatsApp groups designed to engage task force members, remind them about calls, and stimulate additional discussion and exchange; the co-chairs will also facilitate discussions on Springboard, and participate at the annual meeting.

**Status:** The M&E Task Force hosted two calls during this reporting period; presentations included a release of results on the impact of SBCC on net use in Nigeria and on the use (and pros and cons) of

mobile phone surveys for monitoring and evaluating an integrated SBCC project in Ghana. The Vector Control Task Force hosted one call during this reporting period; presentations included the role of religious leaders and how their interpersonal communication are helping to reduce malaria in Madagascar and Guinea. Calls in Year Four have had markedly higher number of attendees, increasing from lows of 3 to 7 in earlier years to as much as 18. One lesson learned from this experience is that attendees prefer calls based on presentations rather than on a technical discussion of task force deliverables. The steering committee also progressed in planning the annual meeting. The steering committee reviewed venue bids, chose Zambia as the host country, and held discussions with the NMCP about hosting and scheduling.

### **IM.15.2 Disseminate Key Resources**

**Brief activity description:** PMI has asked VectorWorks to revise, rebrand, and disseminate the M&E tools developed under NetWorks and VectorWorks. VectorWorks will make minor updates and repackaging for the guide, specifically for developing M&E plans, the reporting checklist, and the research agenda documents. We will also support dissemination of the M&E tools and other resources to NMCP program managers, SBCC focal persons, and M&E focal persons.

**Status:** VectorWorks received comments on edits during the last SBCC Working Group meeting. We will incorporate these comments and lay out the documents using the new RBM templates.

### **IM.15.3 SBCC Toolkit for ITNs**

**Brief activity description:** All PMI countries use messages on net use, but it is hard for implementers to find authoritative, practical guidance, and examples. VectorWorks is developing a toolkit designed to provide implementers with a comprehensive one-stop shop on ITNs, synthesizing state-of-the-art knowledge, including from NetWorks and VectorWorks.

**Status:** This activity is closely coordinated with IM.12 above, the AMP chapter on communication for mass campaigns. The toolkit is largely drafted and under internal review. The work is being developed with input from the RBM SBCC working group, and is planned to be completed in time to be shared at the SBCC working group meeting in September 2018. The SBCC toolkit for ITNs will also be disseminated through both posting on the Health Compass website and the AMP and SBCC working group listserves.

### **IM.15.4 Consensus Statement on ITN Repurposing**

**Brief activity description:** In the past few years, many questions have been raised about the repurposing and/or misuse of ITNs, once a household deems those ITNs to be no longer viable. VectorWorks drafted a consensus statement on this issue, based on discussions with a consortium of ITN partners. The consortium included the AMP's Emerging Issues Working Group, VCWG, and RBM's SBCC Working Group.

**Status:** PMI incorporated the consensus note recommendations from VectorWorks into its Technical Guidance document in 2018.

<b>Deliverable</b>	<b>Audience</b>	<b>Timing</b>	<b>Dissemination Plan</b>	<b>Status</b>
1. Facilitate 5 webinars or conference calls for Vector Control and M&E task forces	Vector Control and M&E Task Force members; AMP and VCWG as appropriate	Ongoing	Email minutes to task force members and post on Springboard	On schedule
2. Disseminate key resources	Vector Control and M&E Task Force members; AMP and VCWG as appropriate	Ongoing	Email to task force members, AMP, VCWG	On schedule
3. Create SBCC Toolkit	PMI resident advisors, NMCPs, implementing partners	Quarter 2	Webinar; presentation to AMP and VCWG; email to NMCP program managers, M&E and ITN focal persons, implementing partners, and PMI resident advisors; presentation at SBCC Working Group	On schedule
4. Consensus statement on ITN repurposing	PMI resident advisors, NMCPs, implementing partners	Quarter 1	Webinar; presentation to AMP and VCWG; email to NMCP program managers, M&E and ITN focal persons, implementing partners, and PMI resident advisors; presentation at SBCC Working Group	On schedule

## Project Management

### PM.1 Start-Up

[Completed in Year One.]

### PM.2 Knowledge Management and External Communications

#### PM.2.A Website Enhancements and Maintenance

**Brief activity description:** VectorWorks keeps the VectorWorks website ([www.vector-works.org](http://www.vector-works.org)) up to date with new resources, blog posts, and country information when available. VectorWorks also hosts M&E Malaria SBCC and NetCALC online training modules through the Johns Hopkins University CoursePlus site. VectorWorks continues to add new followers and “likes” to Facebook and Twitter on a regular basis through continued posting and promoted postings on Facebook.

**Status:** VectorWorks adds new items to the website when PMI approves blog posts and deliverables. In addition, in February 2018, VectorWorks moved all three websites over to a new server platform to increase performance. Now all sites are opening faster and updating the sites will take much less time.

#### Website Statistics, October 1, 2017–March 31, 2018

Site	Page Views <sup>a</sup>	Bounce Rate <sup>b</sup>	Average Session Duration
DurabilityMonitoring.org	1,463	43.71%	4:14
Vector-Works.org	4,775 <sup>c</sup>	61.46%	2:21
Continuousdistribution.org	2,446	4.17%	3:24

<sup>a</sup> Page views: the total number of pages viewed. Repeated views of a single page are counted.

<sup>b</sup> Bounce rate: the percentage of single-page visits (i.e., visits in which the person left the site from the entrance page without interacting with the page).

<sup>c</sup> This number is much lower than in the past because there was a period between January 1 and March 1, 2018, that was not tracked because Google analytics was down for some reason.

Deliverables	Audience	Timing	Dissemination Plan	Status
VectorWorks website	PMI, implementing partners, NMCPs, malaria technical community	Ongoing	Including website address in correspondence and project documents; maintaining an electronic mailing list	On schedule
Online training modules for SBCC M&E and NetCALC	PMI, implementing partners, NMCPs, malaria technical community	Yearly	Share by electronic mailing lists, social media	On schedule

#### PM.2.B Knowledge Management Dissemination and Improved Communication

**Brief activity description:** The VectorWorks project employs digital media to support dissemination and promotional efforts via email announcements, regular blog posts, success stories, electronic mailing lists, communities of practice, newsletters, social media, and new tools.

**Status:** We are posting new content daily to the Facebook and Twitter accounts. The VectorWorks Twitter account (@vectormalaria) had 610 followers by the end of Quarter Two, and the VectorWorks Facebook page had 772 likes. Facebook and Twitter continue to bring visibility to VectorWorks. We gain new followers daily and create innovative content to bring in new followers/likes. PhotoShare is up to date with our photographs of Year Four activities. Currently we have several blog posts and success stories in the works and have published two in the first half of Year Four and one photostory through Exposure.co.

**Twitter Monthly Statistics, October 1, 2017–March 31, 2018, Total Followers = 610**

Monthly	New Followers	Impressions	Profile Visits
October	21	8,254	325
November	27	18,500	518
December	3	4,896	177
January	12	10,200	248
February	8	6,877	482
March	14	8,211	322

Deliverable	Audience	Timing	Dissemination Plan	Status
<p>Completed in Year 1: PM.2.B.1, Internal procedures manual; PM.2.B.2, Dissemination strategy; PM.2.4, Contact list.</p> <p>Completed in Year 2: PM.2.B.3–6, Newsletter, contact list, social media, and Photoshare update.</p> <p>Due to substantial overlap, PM.2.B.8 (blog posts) is now included within PM.2.B.7 (success stories).</p>				
3. Newsletter	RBM partners and working groups, other vector control actors	Ongoing, quarterly	Electronic mailing lists, social media	Quarter 1 newsletter went out January 2, 2018. Quarter 2 newsletter is delayed awaiting approval of AMP training blog post submitted to PMI April 3, 2018.
5. VectorWorks Twitter and Facebook accounts	RBM partners and working groups, other vector control actors, PMI	Ongoing, monthly	Social media	On schedule
7. Blog posts and success stories	PMI, implementing partners	Ongoing	Social media, electronic mailing lists	On schedule
9. Success stories production schedule	PMI	Quarter 1	Email to PMI	Submitted to PMI March 22, 2018

### PM.2.C American Society of Tropical Medicine and Hygiene

**Brief activity description:** The ASTMH Annual Meeting presents an opportunity for researchers and programmatic staff to share best practices and discuss challenges and successes with their peers. Malaria investigators from around the world attended the 2017 ASTMH Annual Meeting on November 5–9, 2017, in

Baltimore, Maryland. VectorWorks submitted abstracts for oral presentations and posters and organized a lunch to discuss field issues with durability monitoring investigators.

**Status:** Nine VectorWorks team members attended the meeting, representing CCP Baltimore, CCP Tanzania, PSI, and Tulane University. The project director, Dr. Koenker, delivered an oral presentation on ITN indicators titled “Population Access to ITN is a better indicator of universal coverage than household ownership of 1 ITN for 2 people.” In addition, VectorWorks shared project work through nine posters:

- Quantifying seasonal patterns of ITN use across sub-Saharan Africa
- Streamlining operations and reducing costs in school ITN distribution in Tanzania: 2013–2017
- Costs of continuous ITN distribution channels: a multi-country case series
- Characteristics of households that have purchased nets in six countries in sub-Saharan Africa
- Challenges and recommendations for urban ITN distribution via mass campaigns
- Feasibility assessments for continuous ITN distribution in Kenya and Guinea
- “Sleep is leisure for the poor”—understanding perceptions, barriers, and motivators to net care and repair in southern Tanzania
- Beneficial, neutral, or harmful: repurposing of worn out mosquito nets in Malawi
- Climate change, poverty and hunger: drivers behind the misuse of ITNs for fishing in Malawi

The durability monitoring investigator’s lunch took place on November 6, 2017. In total, 35 durability monitoring investigators, program staff, and PMI resident advisors participated in the event. Participants discussed how to interpret the data for programmatic use, field challenges, and data sharing and dissemination. Participants received the event well. VectorWorks followed the event with a durability monitoring webinar in December 2017 that discussed a lot of the same challenges and questions brought up during the meeting.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 2: PM.2.C.1, Trip report. Completed in Year 3: PM.2.C.2, Trip report.				
3. Trip report, including outcomes from durability monitoring investigators meeting and LLIN Priorities meeting	AOR	Quarter 1	Email	Acknowledged by PMI: February 27, 2018

### PM.3 Gender Aspects of ITN Distribution and Use

[Completed in Year One: PM.3.A Gender analysis; PM.3.B Gender strategy.]

[Canceled in Year Two: PM.3.C Gender Analysis Toolkit for Country-Level ITN Distribution Programs.]

[Completed in Year Two: PM.3.D Gender Trainings for VectorWorks Field Staff.]

[Completed in Year Three: PM.3.E Gender Reporting for Year Three.]

#### PM.3.F Gender Reporting for Year Four

**Brief activity description:** VectorWorks’ gender team provided VectorWorks staff and partners with a checklist for incorporating gender into activities at the Year Four Partners’ Meeting in June 2017. The checklist included suggestions for gender considerations and integration for research and programmatic activities as well as for workshops and events. The gender champions also met with project staff throughout the year to provide feedback and guidance on gender considerations for activities as planning and implementation progressed.

**Status:** VectorWorks incorporated gender considerations into several core-funded activities:

- For misuse (PC.4), the upcoming manuscript will include a section assessing the impact of gender on misuse. VectorWorks will also work to have an equitable gender balance at a misuse meeting planned for the later in Year Four or early Year Five.
- The analysis of the residual transmission manuscript (ME.14) disaggregated time spent outdoors, time away from home, net use, and nighttime activities by gender. The manuscript will present the differences and the programmatic implications.
- The age-gender paper (ME.18) explores differences in ITN use by gender stratified by household supply of ITNs across 27 countries in sub-Saharan Africa, which we will publish later in Year Four.

Additionally, the gender champions facilitated a gender training at CCP on February 14, 2018, and two VectorWorks staff members attended. Program officer Mr. Eric Filemyr will give an oral presentation on gender and malaria at the SBCC Summit in Indonesia on April 17, 2018.

Deliverables	Audience	Timing	Dissemination Plan	Status
Gender report section in semiannual reports; completion rate and description of activities	PMI	Quarters 2 and 4	Semiannual reports	Included herein.

## PM.4 Project Communications, Coordination, and Reporting

**Brief activity description:** The VectorWorks project implements robust systems to coordinate its own staff, assess its performance, and document progress.

**Status:** VectorWorks continues to meet every week to review pertinent administrative, technical, and operational aspects of the project. We submit financial reports quarterly, and we submit narrative progress reports twice a year. Oversight, planning, and management of collaborative activities in many of our country programs benefit from supervisory visits by either the project director, senior technical advisor, or program officer leads. Generally, we incorporate supervisory visits into technical assistance trips. During this reporting period, while not all financed through core funding, VectorWorks staff made trips to Angola, Democratic Republic of Congo, Ghana, Guinea, Liberia, Mozambique, and Tanzania. No core-funded supervision-specific trips were made, but the Project Director will visit Tanzania and Ghana for supervision in the second half of Year Four. The senior management team meets weekly to discuss all issues around oversight, planning, and management of the project.

<b>Deliverables</b>	<b>Audience</b>	<b>Timing</b>	<b>Dissemination Plan</b>	<b>Status</b>
<p>Completed in Year 1: PM.4.5, CCP worldwide meeting, PM 4.6, Finance orientation for subaward monitoring.</p> <p>Completed in Year 2: PM.4.10, Project supervision Ghana trip report.</p> <p>Completed in Year 3: PM.4.11, Financial training workshop for field officers on compliance and new Office of Management and Budget regulations.</p>				
1. Weekly internal conference call (annotated agendas)	VectorWorks team	Weekly	Share by email	On schedule
2. Weekly coordination call with PMI project director/deputy director (minutes)	AOR, project director, and deputy director	Weekly	Share by email	On schedule
3. Annual project work plan planning meeting	Partners and PMI project team	Quarter 4	PMI project team	On schedule: Quarter 4
4. Internal planning meeting	CCP VectorWorks team	Quarter 3	n/a	On schedule: Quarter 3
7. Bimonthly PMI update meetings	PMI	Bimonthly	PowerPoint	On schedule
8. Narrative progress reports	PMI	Due from partners end October and end April; due to USAID on November 15, May 15	Share by email	On schedule
9. Financial reports	PMI	Quarterly	Share by email	On schedule
10. Project supervision (trip report)	AOR, PMI Ghana, PMI Tanzania	Quarter 3	Email	On schedule: Quarter 3

**PM.5 Leadership and Strategic Health Communication Workshop**

[Completed in Year Two.]

## PM.6 Production Schedule for Success Stories

[Completed in Year Three; now included as standard part of PM.2.B.]

## PM.7 Writing Retreats

**Brief activity description:** VectorWorks continues to have key deliverables each year that require focused writing time—away from the daily flood of emails, meetings, phone calls, and urgent requests. While we have increased staff to relieve some of this pressure, we believe that scheduling protected writing time is the only way to effectively move forward on the many written manuscripts and analyses that we need to complete to move ITN policy forward.

**Status:** Since the beginning of Year Four, VectorWorks has held four writing retreats of one day each that included intense writing and deliverable completion. See exact dates below:

- Friday, November 17, 2017
- Friday, December 8, 2017
- Thursday, February 15, 2018
- Friday, March 16, 2018

## PM.8. Participation in the 2017 Roll Back Malaria SBCC Working Group Meeting

[Completed in Year Three.]

## Core Deliverables Table

This table includes active deliverables in Year Four. It does not include deliverables completed in Years One, Two, and Three.

Code	Deliverable	Status	Year Started	Date Completed (Submitted)	Date Approved
PC.1.A.4	VCWG meeting conducted	Completed	4	2/26/2018	3/5/2018
PC.1.C.8	New Challenges New Tools work stream work plan for 2017	In Process	3		
PC.1.C.9	Presentations and trip report 2018	Completed	4		3/5/2018
PC.1.C.10	LLIN Priorities Work Stream work plan for 2018	In Process	4		
PC.1.C.11	New Challenges New Tools Work Stream work plan for 2018	In Process	4		
PC.1.D.8	AMP Presentations 2017	Completed	4	2/26/2018	3/5/2018
PC.1.D.9	AMP trip report 2017	Completed	4	2/26/2018	3/5/2018
PC.2.B.1	Manuscript on transitioning from campaigns to CD	Postponed	1		
PC.2.D.3	Trip reports from CRSPC and SRN meetings	In Process	4		
PC.3.A.6	Publishable-quality paper making the case for the population access indicator as the key universal coverage indicator for ITNs	In Process	3		
PC.3.A.7	TBD activity to support WHO access analysis	Completed	4		2/19/2018
PC.3.B.2	Report on PMI countries utilizing the analysis plan	In Process	3		
PC.3.B.3	Updates to the source of nets report as new data are available in Year Four	Ongoing	3		
PC.3.C.1	MERG Trip report including copy of presentation(s) if on agenda	Submitted	4	10/24/2017	
PC.4.5	Set of survey instruments	In Process	2		
PC.4.6	Summary process manual	In Process	2		
PC.4.7	Pilot test survey instruments in two sites (TBD) report	In Process	2		
PC.4.8	Final decision tree	In Process	2		
PC.4.9	Complete net misuse toolkit	In Process	2		
PC.4.11.A	Trip report on Oxford policy meeting and FAO visit	Completed	3	2/26/2018	

<b>Code</b>	<b>Deliverable</b>	<b>Status</b>	<b>Year Started</b>	<b>Date Completed (Submitted)</b>	<b>Date Approved</b>
<b>PC.4.11.B</b>	Workshop report	<b>In Process</b>	<b>3</b>		
<b>PC.4.12</b>	Enforcement case study report comparing Tanzania, Malawi, Mozambique and Burundi experiences	<b>In Process</b>	<b>4</b>		
<b>PC.4.13</b>	Report summarizing opportunities for broader partnership with implementing partners from other sectors	<b>In Process</b>	<b>4</b>		
<b>PC.6</b>	Working paper on alternative distribution strategies in urban areas	<b>In Process</b>	<b>2</b>		
<b>ME.1.3.E-G</b>	Modeling work using pooled Durability Monitoring data	<b>Completed</b>	<b>3</b>		<b>3/15/2018</b>
<b>ME.1.5</b>	Develop an index for environmental and behavioral risk	<b>In Process</b>	<b>3</b>		
<b>ME.1.6</b>	Develop thresholds for action based on key results at each monitoring assessment	<b>Submitted</b>	<b>3</b>	<b>2/28/2018</b>	
<b>ME.1.8</b>	ASTMH durability monitoring principal investigators' meeting	<b>Completed</b>	<b>4</b>		<b>11/6/2017</b>
<b>ME.1.9</b>	DM capacity-strengthening case study	<b>In Process</b>	<b>4</b>		
<b>ME.1.10</b>	Webinars promoting use of standardized processes and tools and data interpretation	<b>1<sup>st</sup> webinar completed</b>	<b>4</b>		<b>12/7/2017</b>
<b>ME.1.11</b>	Insecticidal content and bioassay testing for ABCDR stored nets	<b>In Process</b>	<b>4</b>		
<b>ME.2.B.5</b>	Quarterly newsletter alternative vector control tools	<b>Ongoing</b>	<b>4</b>		
<b>ME.3.A.3</b>	Ghana health facility costing update	<b>Submitted</b>	<b>1</b>	<b>2/23/2018</b>	
<b>ME.3.A.6</b>	Mainland Tanzania Health Facility Costing	<b>In Process</b>	<b>3</b>		
<b>ME.3.A.7</b>	Summary manuscript for continuous distribution costs based on deliverables 1–6	<b>In Process</b>	<b>3</b>		
<b>ME.3.A.8</b>	Manuscript of meta-analysis comparing continuous distribution and mass campaign costs	<b>In Process</b>	<b>3</b>		

<b>Code</b>	<b>Deliverable</b>	<b>Status</b>	<b>Year Started</b>	<b>Date Completed (Submitted)</b>	<b>Date Approved</b>
<b>ME.3.A.9</b>	Manuscript connecting continuous distribution costs to transmission modeling	<b>In Process</b>	<b>3</b>		
<b>ME.3.A.10</b>	Tanzania: Costing SNP5 and comparison to SNP2: measuring the gains of learning by doing	<b>Not Started</b>	<b>4</b>		
<b>ME.3.B.4</b>	DCE paper #2	<b>Request to Cancel</b>	<b>3</b>		
<b>ME.5.B.2</b>	Manuscript on Ghana school distribution pilot	<b>Completed</b>	<b>1</b>		<b>3/23/2018</b>
<b>ME.5.B.5</b>	Webinar summarizing results of published studies		<b>4</b>		
<b>ME.5.B.6</b>	Evidence review at VCTEG		<b>4</b>		
<b>ME.6.6</b>	Nigeria Cross River schools published	<b>Completed</b>	<b>1</b>	Accepted by journal 1/10/2018	
<b>ME.6.7</b>	Hole Index Methods paper published	<b>In Process</b>	<b>1</b>		
<b>ME.7.2</b>	Subnational use of use:access ratio published	<b>In Process</b>	<b>1</b>		
<b>ME.6</b>	Updated PMI report on access indicator showing stratification by region, season, and risk group, with updated maps	<b>Ongoing</b>	<b>4</b>		
<b>ME.11</b>	Publishable review of literature on outdoor malaria transmission	<b>In Process</b>	<b>2</b>		
<b>ME.14.1</b>	Planning memo for expected attendees and outputs of an African Outdoor Transmission Network workshop	<b>In Process</b>	<b>3</b>		
<b>ME.14.3</b>	Report on key outcomes of the residual malaria transmission workshop	<b>Completed</b>	<b>4</b>	12/12/2017	<b>1/3/2018</b>
<b>ME.15</b>	Counterfeit Nets: Summary report from three countries; recommendations for next steps	<b>In Process</b>	<b>3</b>		
<b>ME.16.1</b>	Ghana 2014 DHS report on ITN use	<b>Completed</b>	<b>3</b>		<b>10/19/2017</b>
<b>ME.16.2</b>	Nigeria 2015 MIS report on ITN use	<b>Submitted</b>	<b>3</b>	2/7/2018	
<b>ME.17</b>	Publishable-quality paper on who buys nets, a multi-country analysis	<b>In Process</b>	<b>3</b>		

<b>Code</b>	<b>Deliverable</b>	<b>Status</b>	<b>Year Started</b>	<b>Date Completed (Submitted)</b>	<b>Date Approved</b>
<b>ME.18</b>	Publishable-quality paper on age and gender patterns of ITN use, a multi-country analysis	<b>In Process</b>	<b>4</b>		
<b>ME.19</b>	NetCalc Lite	<b>In Process</b>	<b>4</b>		
<b>ME.20.1</b>	Report on Phase 1 methods and results	<b>In Process</b>	<b>4</b>		
<b>ME.20.2</b>	Phase 2 research protocol	<b>On hold</b>	<b>4</b>		
<b>IM.8.3</b>	Decision Tree for ITN Distribution	<b>In Process</b>	<b>4</b>		
<b>IM.11</b>	Minimum Data Requirements for Mass Campaigns report	<b>In Process</b>	<b>3</b>		
<b>IM.12.1</b>	AMP Mass Distribution Toolkit – text for chapter on communications	<b>In Process</b>	<b>3</b>		
<b>IM.12.2</b>	AMP Mass Distribution Toolkit – text for microplanning section	<b>In Process</b>	<b>3</b>		
<b>IM.12.3</b>	AMP Mass Distribution Toolkit – text for advocacy section	<b>In Process</b>	<b>3</b>		
<b>IM.12.4</b>	AMP Mass Distribution Toolkit – text for the training section	<b>In Process</b>	<b>3</b>		
<b>IM.13.A.1</b>	Translated training materials in English, French, and Portuguese	<b>Cancelled</b>	<b>4</b>		
<b>IM.13.A.2</b>	AMP consultant training report	<b>Submitted</b>	<b>4</b>	<b>3/30/2018</b>	
<b>IM.13.B.1</b>	Regional AMP NMCP Partner Training curriculum	<b>In Process</b>	<b>4</b>		
<b>IM.13.B.2</b>	Finalized training materials in English and French	<b>In Process</b>	<b>4</b>		
<b>IM.13.B.3</b>	Anglophone training report, Francophone training report	<b>In Process</b>	<b>4</b>		
<b>IM.14</b>	Report on operational considerations for various mosaic or rotation distribution strategies being modeled for next-generation nets	<b>In Process</b>	<b>4</b>		
<b>IM.15.2</b>	RBM SBCC M&E Tools rebranding	<b>In Process</b>	<b>3</b>		
<b>IM.15.3</b>	SBCC Toolkit for ITNs	<b>In Process</b>	<b>4</b>		
<b>IM.15.4</b>	Consensus statement for ITN repurposing	<b>In Process</b>	<b>4</b>		
<b>PM.2.A.1</b>	Website	<b>Ongoing</b>	<b>1</b>		

<b>Code</b>	<b>Deliverable</b>	<b>Status</b>	<b>Year Started</b>	<b>Date Completed (Submitted)</b>	<b>Date Approved</b>
<b>PM.2.B.3</b>	Newsletter	<b>Ongoing</b>	<b>2</b>		
<b>PM.2.B.5</b>	VectorWorks Twitter and Facebook Account	<b>Ongoing</b>	<b>2</b>		
<b>PM.2.B.7</b>	Blog posts	<b>In Process</b>	<b>3</b>		
<b>PM.2.B.9</b>	Success stories for PMI	<b>Submitted</b>	<b>4</b>	3/22/2018	
<b>PM.2.C.3</b>	Trip report, including outcomes from durability monitoring investigator's meeting, and LLIN Priorities meeting	<b>Completed</b>	<b>4</b>		2/27/2018
<b>PM.3.F</b>	Gender report section in semiannual reports; completion rate and description of activities	<b>Completed</b>	<b>4</b>		
<b>PM.4.1</b>	Weekly internal conference call agendas	<b>Ongoing</b>	<b>1</b>		
<b>PM.4.2</b>	Weekly PMI/VectorWorks coordination call	<b>Ongoing</b>	<b>1</b>		
<b>PM.4.3</b>	Annual work plan meeting	<b>On schedule</b>	<b>1</b>		
<b>PM.4.4</b>	Internal planning meeting	<b>On schedule</b>	<b>1</b>		
<b>PM.4.7</b>	Bimonthly PMI update meetings	<b>Ongoing</b>	<b>1</b>		
<b>PM.4.8</b>	Narrative progress reports	<b>Ongoing</b>	<b>1</b>		
<b>PM.4.9</b>	Financial reports	<b>Ongoing</b>	<b>1</b>		
<b>PM.7</b>	Writing retreats	<b>Ongoing</b>	<b>3</b>		

## Environmental Monitoring and Mitigation Report (EMMR)

While VectorWorks reports the majority of the Environmental Monitoring and Mitigation Report (EMMR) annually, as per EMMR Part 2 of 3, VectorWorks is required to report semiannually on the following:

Category of Activity from Section 5 of VectorWorks IEE	Describe specific environmental threats of your organization's activities	Description of mitigation measures for these activities	Who is responsible for monitoring	Monitoring Indicator
Distribution of Public Health Commodities	Reduced efficacy of LLINs and environmental/human health impacts if LLINs are misused	Applies only in countries where VectorWorks distributes LLINs and is responsible for BCC messaging	VectorWorks Project Director and AOR	<p><b>Ghana:</b> 10,657 teachers from 5,595 primary schools have been trained on ITN use and care with emphasis on environmental consideration in ITN use and care. Trained school teams as part of malaria prevention and ITN use and care campaigns will emphasize proper ITN washing practices, such as not washing ITNs in and around water bodies and not disposing of insecticide contaminated water after washing in and around water bodies.</p> <p>School teams will use classroom and assembly sessions, Parent Teacher Association (PTA) meetings, and community engagements to promote proper ITN washing and waste disposal practices.</p> <p>Messages such as "Do not wash your treated net in and around water bodies (rivers, ponds, dams etc.)" and "Do not dispose water after washing your treated net in and around water bodies. ITNs are to be washed in a laundry basin and wastewater appropriately disposed."</p> <p>Additionally 677 district health and education officers have been trained to advocate for proper washing and disposal of ITNs in health facilities, community outreaches.</p>

Category of Activity from Section 5 of VectorWorks IEE	Describe specific environmental threats of your organization's activities	Description of mitigation measures for these activities	Who is responsible for monitoring	Monitoring Indicator
				<p><b>Tanzania:</b> A total of 645,888 people (266,864 males and 379,024 females) were reached through SBCC messages on consistent and proper ITN use, care and repair as well as washing of ITNs in non-water masses. The people were reached through social behavior change activities in 7 regions and 49 district councils (Katavi, Kigoma, Morogoro, Pwani, Shinyanga, Simiyu, and Tabora), which had just rolled out to distribution of ITNs through health facilities.</p> <p><b>Guinea:</b> 713 total reached through SBCC messages on ITN use and care, particularly washing of nets. This was through training and workshops of prefectural focal persons, health facility staff, and school directors and teachers.</p> <p><b>Liberia:</b> VectorWorks provided training to seven health promotion focal persons from the National Health Promotion Division (one per county) to monitor the airing of spots messages by the radio stations. VectorWorks also trained each of this Health Promotion Focal Persons to educate community on the care of nets, that it "when the net is dirty, they should soak it in water in a tub(basin) and wash it with bathing soap, rinse it with clean water and hang it under a shade to get dry and not directly under sunlight." In addition, VectorWorks sent out radio spots with a potential reach of 1.4 million. These included</p>

Category of Activity from Section 5 of VectorWorks IEE	Describe specific environmental threats of your organization's activities	Description of mitigation measures for these activities	Who is responsible for monitoring	Monitoring Indicator
				messaging on using mild bathing soap to wash nets, not to use nets for fishing, do not make a fence around their gardens with nets, and not to use pieces of the nets as a bathing sponge.

## Cost Share Update

As of March 31, 2018, we calculated the cost share contributions for VectorWorks (see table). With the signature of the UK Department for International Development (DFID) grant for the Private Sector Malaria Prevention (PSMP) project in Ghana on July 27, 2015, we anticipate meeting 100% of VectorWorks cost share requirements with those funds—approximately 5 million British Pound Sterling in the coming years.

Category	Description	Doc Number	Type	Valuation Method	Value	Date Added
Funded Project Cost	Entire DFID grant 116667- Oct 2014- Jun 2015 less items from prior periods	Entire grant Oct14- Jun15 less prior period amts	Other Expenses	Actual Cost	\$ 549,739.13	7/27/2015
Funded Project Cost	Entire DFID grant 116667- Jul 2015- Sept 2015	Entire grant Jul15- Sep15	Other Expenses	Actual Cost	\$ 328,006.44	11/2/2015
Funded Project Cost	Severance Expenses for DFID grant (116667) which were funded from discretionary	115158674	Salary	Actual Cost	\$ 45,000.00	11/2/2015
Funded Project Cost	Trailing Severance Expenses for DFID grant (116667) which were funded from discretionary	115163231	Salary	Actual Cost	\$ 367.76	11/2/2015
Funded Project Cost	Entire Agreement 123843 DFID PSMP - Jul 2016 - Sep 2016 Inception period invoice - fixed amount per budget		Other Expenses	Exchange rate of contractual cost	\$ 2,589.75	10/31/2016
Funded Project Cost	PSI contributed Cost Share (October 2014-September 2015)		Sub-award Contribution	PSI Letter	\$ 44,595.00	2/3/2017

Category	Description	Doc Number	Type	Valuation Method	Value	Date Added
Funded Project Cost	Entire Agreement 123843 DFID PSMP- Oct - Dec 2016 (Omitted Exchange Loss)		Other Expenses	Actual Cost	\$ 242,800.55	2/3/2017
Funded Project Cost	Tropical Health October 2014 - September 2016		Other Expenses	Actual Cost	\$ 134,757.75	6/2/2017
Funded Project Cost	Entire Agreement 123843 DFID PSMP- Jan - Mar 2017 (Omitted Fees & Exchange Loss)		Other Expenses	Actual Cost	\$ 302,885.61	6/2/2017
Funded Project Cost	PSI contributed Cost Share (October 2015-September 2016)		Other Expenses	Actual Cost	\$140,000.00	6/29/2017
Funded Project Cost	Entire Agreement 123843 DFID PSMP- Apr- Jun 2017 (Omitted Fees & Exchange Loss)		Other Expenses	Actual Cost	\$316,582.56	2/1/2018
Funded Project Cost	PSI contributed Cost Share (October 2016-September 2017)		Other Expenses	Actual Cost	\$237,396.00	11/10/2017
Funded Project Cost	Tropical Health October 2015 - September 2017		Other Expenses	Actual Cost	\$26,887.50	11/20/2017

Category	Description	Doc Number	Type	Valuation Method	Value	Date Added
Funded Project Cost	Entire Agreement 123843 DFID PSMP- Jul - Sept 2017 (Omitted Fees & Exchange Loss)		Other Expenses	Actual Cost	\$368,173.90	2/1/2018
Funded Project Cost	Entire Agreement 123843 DFID PSMP- Oct - Dec 2017 (Omitted Fees & Exchange Loss)		Other Expenses	Actual Cost	\$317,354.66	3/29/2018
<b>Total</b>					<b>\$ 3,057,136.61</b>	
Required cost share per VectorWorks obligations through March 31, 2018**					\$4,975,981.00	
Percent of required cost share achieved as of December 31, 2017 : 61%***						
<p>*Note: Required cost share is 10% of obligated costs, therefore it will change as obligation is added</p> <p>**Includes funds released through March 31, 2018.</p> <p>***Includes invoices for DFID through December 31, 2017. Jan – March 2018 not yet invoiced or reflected on the books for Johns Hopkins University.</p>						

# ANGOLA

## AN.IM.1 LLIN Strategy Support

[Completed in Year Three.]

## AN.IM.2 Technical Assistance for LLIN Distribution

[VectorWorks recoded activity AN.IM.2 as activity AN.IM.3 in Year Three. PMI approved the modification on January 30, 2017.]

## AN.IM.3 Technical Assistance for Mass LLIN Campaign

[Completed in Year Three.]

## AN.IM.4 Communications Strategy and SBCC Materials

[Completed in Year Three.]

## AN.IM.5 Evaluation for Mass LLIN Campaign

[Completed in Year Three: AN.IM.5.A Process Evaluation for Mass LLIN Campaign.]

### AN.IM.5.B Post-Mass LLIN Distribution Campaign Survey and Workshops

**Brief activity description:** In Year Three, VectorWorks completed a process evaluation of the first round of the LLIN mass distribution campaign. To further inform future phases of the mass LLIN campaign, as well as future mass LLIN campaigns, VectorWorks will conduct a survey of stakeholders and conduct lessons-learned workshops at the provincial level.

**Status:** VectorWorks contracted with a local consultant at the end of 2017. This consultant will support the lessons-learned workshops as well as the field assessment of the routine LLIN distribution.

We created a draft post-campaign survey in January 2018. We will use survey results to inform the agenda and topic areas of the lessons-learned workshops. The local consultant has remained in communication with PSI and the NMCP to track the status of the mass LLIN campaign. The NMCP and PSI provided information to the local consultant to collate a preliminary contact lists for survey participants.

PSI has completed the distributions in Cuanza Norte, Cuanza Sul, Malange, Uige and Zaire in early 2017 and Cunene and Namibe in late 2017. Due to an insufficient amount of LLINs, PSI has delayed the implementation of further phases of the campaign. VectorWorks has delayed its lessons learned activities, set to start in Quarters Two and Three, to align with the delayed implementing of the mass LLIN campaign. The survey and lessons-learned workshops are now scheduled for Quarter Three of Year Four.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Workshop briefs (5)	PMI, NMCP, implementing partners	Quarters 2–3	Email PMI, NMCP, and implementing partners	Delayed to Quarters 3–4

Deliverable	Audience	Timing	Dissemination Plan	Status
2. Campaign lessons-learned report	PMI, NMCP, implementing partners	Quarter 4	Email PMI, NMCP, and implementing partners	On schedule

## AN.IM.6 ANC LLIN Distribution Support

### AN.IM.6.A Field Assessment and Implementation Guidelines of ANC LLIN Distribution

**Brief activity description:** VectorWorks will work with the NMCP, donors, and implementing partners to conduct a field assessment of LLIN distribution through ANC and EPI services. VectorWorks, the NMCP, donors, and implementing partners will use the findings of the field assessment to develop implementation guidelines for ANC and EPI LLIN distribution.

**Status:** PMI requested that VectorWorks add EPI into the originally programmed assessment of ANC LLIN distribution.

VectorWorks has developed an agenda, terms of reference, and an assessment guide for the field assessment. We shared these documents with PMI on February 27, 2018, for feedback. PMI, in coordination with the NMCP, has provided information on the provinces where VectorWorks will implement the assessment—Huambo, Uige, and Lunda Sul. VectorWorks will work with PMI and the NMCP to identify appropriate municipalities for implementation of the field assessment.

NMCP has verbally approved the date of the field assessment for June 11–29, 2018. Written approval will follow in Quarter Three. As planning for the field assessment continues, VectorWorks will work with the NMCP and PMI to ensure that appropriate stakeholders participate in the various phases of the field assessment and the design of the ANC and EPI implementation guidelines.

In addition to gathering resources at the national level, VectorWorks and PMI conducted a site visit to Lunda Sul in March 2018. During the site visit, VectorWorks conducted preliminary observations and gathered implementation tools to inform the field assessment.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Field assessment tools	PMI, NMCP, implementing partners	Quarter 1	Email PMI, NMCP, and implementing partners	Submitted to PMI: February 27, 2018
2. PowerPoint presentation of preliminary findings and outline of draft implementation guideline outline	PMI, NMCP, implementing partners	Quarter 3	In-person presentation and email to PMI, NMCP, implementing partners	On schedule

<b>Deliverable</b>	<b>Audience</b>	<b>Timing</b>	<b>Dissemination Plan</b>	<b>Status</b>
3. Field assessment report	PMI, NMCP, implementing partners	Quarter 3	Email PMI, NMCP, implementing partners	On schedule
4. Final draft of implementation guidelines for ANC and EPI LLIN distribution	NMCP, PMI, implementing partners	Quarter 3	In-person presentation and email to PMI, NMCP, implementing partners	On schedule

## Program Management

### AN.PM.1 Work Plan and Reporting

VectorWorks will work with USAID and PMI-Angola to draft an annual work plan before the start of each year. VectorWorks understands that we may need to provide information, as needed, for the PMI annual reports, strategic planning, VIP visits, and congressional reports.

<b>Deliverable</b>	<b>Audience</b>	<b>Timing</b>	<b>Dissemination Plan</b>	<b>Status</b>
Year 4 work plan	PMI	Quarter 1	Email to PMI	Approved by PMI: October 27, 2017
Quarterly financial reports	PMI	Quarters 1–4	Email to PMI	On schedule
Semiannual progress report	PMI	Quarter 3	Email to PMI	On schedule

# BENIN

## BE.1 Assistance to Outdoor Sleeping and Net Use Study

**Brief activity description:** VectorWorks provided remote technical guidance to the Entomological Research Center of Cotonou (CREC) to inform the behavioral component of a research study. CREC launched a research study to look at entomological and some limited behavioral elements associated with outdoor sleeping and use of ITNs. The overall goal was to better understand human behavior as it relates to exposure to malaria vectors. Specifically, CREC sought to understand the percentage of people who sleep indoors and outdoors; ITN use for those groups; use of other preventive measures; and perceptions of preventive measures, namely indoor residual spraying. However, the behavioral piece did not have a protocol. PMI asked VectorWorks to use its expertise in behavioral determinants of outdoor sleeping habits from Northern Ghana and Zanzibar to provide remote technical guidance to CREC.

**Status:** VectorWorks facilitated calls in July, September, and December 2017 and shared three sets of example protocols and tools from its work on this topic in other countries in July 2017. CREC reviewed VectorWorks’ protocols and research tools and integrated elements into their tools. VectorWorks and CREC communicated via email to discuss the design and strategy for the protocols and data collection plans and VectorWorks provided detailed written input on the study protocol and tools in January 2018. Since sharing tools, CREC has completed two rounds of data collection; one round remains to be completed. They submitted an abstract to the ASTMH. CREC will present results from all three rounds in November.

While this activity is complete, VectorWorks will seek formal PMI approval in Quarter Three.

Deliverable	Audience	Timing	Status
BE.1 Sample study materials and associated questionnaires, observation forms, and discussion guides for human behavioral study on outdoor sleeping and ITN use	PMI and CREC	Quarter 3	On Schedule

## BE.2 Integrated Vector Control Strategy

**Brief activity description:** Malaria cases have declined in Benin over the past 10 years. The country, which is committed to sustaining these gains, is moving toward pre-elimination between 2030 and 2040. To continue that progress, VectorWorks will conduct an integrated vector control assessment to help the Benin NMCP determine which vector control measures are likely to work best in the country’s different environmental zones. This assessment will guide the medium term—the next two to three years—and will include cost-effectiveness information for the positive and negative aspects of each measure, where available.

**Status:** Despite delays in scheduling, VectorWorks’ Ms. Sara Berthe and the Swiss Tropical and Public Health Institute’s Dr. Olivier Briët traveled to Cotonou, Benin, from March 26 to 29 to facilitate a vector control strategy workshop. Preparations for the workshop began in August, when VectorWorks defined the terms of reference and objectives with PMI. In addition, in November, VectorWorks conducted key informant interviews with the President’s Office (CNLS-TP), UNICEF, and WHO. A delegation from NMCP traveled to Baltimore to participate at the ASTMH Annual Meeting; VectorWorks met with the team to discuss the meeting objectives.

In order to bring stakeholders together around a common understanding of the issues, VectorWorks, PMI, and the NMCP agreed that VectorWorks should discuss vector control strategies, including ITNs (both LLINs and PBO nets), environmental management strategies (including larval source management), and management of insecticide resistance. The major foci of these discussions were efficacy, cost-efficiency, and combinations of the interventions. VectorWorks drew on Benin-specific examples but also took examples from other modeling work done in similar African settings.

The agenda of the two-day workshop focused on vector control trends in Benin, a review of the National Strategic Plan and the gaps in knowledge, evidence, and funding for each strategy, and general group discussions on each of the potential vector control activities. A last-minute addition to the agenda was a presentation on modeling of interventions in Tanzania to show the Beninese stakeholders how modeling may help them when moving forward. Participants at the meeting included implementing partners, researchers, and academics from universities across Benin, NMCP, CNLS-TP, and PMI.

While the strategy workshop is complete, the deliverables are not. VectorWorks and PMI will schedule a debrief phone call to discuss next steps. VectorWorks will submit the final deliverables in Quarter Three.

<b>Deliverable</b>	<b>Audience</b>	<b>Timing</b>	<b>Status</b>
BE.2.1 Brief memo assessing options for malaria vector control in Benin's varying epidemiological zones	NMCP and PMI	Quarter 3	Delayed to Q3
BE.2.2 Facilitation of two-day workshop in Cotonou to present and discuss findings and recommendations	NMCP and PMI	Quarter 2	On Schedule

# DRC

## DRC.1 ITN Durability Monitoring

**Brief activity description:** VectorWorks manages supports ITN durability monitoring in the Democratic Republic of Congo (DRC). The project conducts monitoring at two sites, in the provinces of Sud-Ubangi and Mongala, which share a border. VectorWorks primary monitoring and evaluation partner—Tropical Health—with local partner Kinshasa School of Public Health (KSPH) completed baseline data collection in October 2016. All campaign ITNs in these households were labeled with a unique identification number for follow-up and analysis.

The KSPH team conducted follow-up data collection 12 months after the August 2016 mass campaign and will continue to follow-up 24 and 36 months post-distribution to assess the physical and insecticidal status of cohort ITNs. At each follow-up, data collectors also select a sample of 30 additional campaign ITNs from each monitoring site for a laboratory assessment of insecticidal effectiveness (bioassay). At all follow-up points, KSPH data collectors monitor environmental and behavioral risk factors for ITN durability. The ITN brands being monitored are the polyester DawaPlus 2.0 and the polyethylene DuraNet.

**Status:** VectorWorks has completed the baseline and 12-month follow-up data collection and reporting. Data collectors completed fieldwork for the 12-month follow-up in August 2017; this part of the activity is summarized in the VectorWorks Year Three annual report. VectorWorks submitted a preliminary 12-month follow-up report to PMI on December 1, 2017, and this report included all of the information except bioassay data. Bioassay results were included in the final report, which was approved by PMI-DRC on March 27, 2018. Preliminary estimates for median ITN survival for campaign nets are 2.4 years in Sud-Ubangi and 1.5 years in Mongala.

Local implementation partners indicated that the 12-month round of data collection was slowed due to heavy rainfall. VectorWorks thus scheduled the 24-month follow-up to begin in late April 2018 to avoid the height of rainy season. The research team is confident that collecting data earlier in the year will not affect the interpretation of results.

Dr. Albert Kilian (Tropical Health) and Dr. Paul Mansiangi (KSPH) facilitated a data analysis workshop in November 2017 to train DRC stakeholders to analyze and interpret results from the baseline and 12-month follow-up fieldwork. In total, the workshop trained 25 participants. Based on strong performance in data collection and the skills its staff acquired during the workshop, KSPH will play a larger role in data analysis following the 2018 data collection. VectorWorks will validate the analysis done by KSPH, rather than conducting the initial analysis. This approach will further strengthen the capacity of the local research institution to undertake analysis on its own.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 3: DRC.1.1, Baseline report.				
2. 12-month report	PMI, NMCP, implementation partners	Quarter 1	Share by email with PMI	Approved by PMI-DRC: March 27, 2018

Deliverable	Audience	Timing	Dissemination Plan	Status
3. Data analysis workshop report	PMI, NMCP, implementation partners	Quarter 4	Share by email with PMI	Approved by PMI: December 22, 2017

## DRC.2 School ITN Distribution Technical Assistance

[Completed in Year Three.]

## DRC.3 School ITN Distribution Technical Assistance (Year Four)

**Brief activity description:** This activity follows the successful completion of deliverable DRC.2, which was Year Three technical assistance in school-based distribution planning and the production of a school-based distribution implementation guide. For Year Four, PMI-DRC requested that VectorWorks provide additional assistance to UNICEF and the NMCP in the areas of SBCC and evaluation of distribution. VectorWorks will provide on-going technical assistance to UNICEF and the NMCP toward designing communications materials for the school-based ITN distribution program scheduled for three provinces in 2018. This work included participating in a January 2018 SBCC materials design workshop. VectorWorks will work with partners to develop a communications strategy for the school-based ITN distribution that includes messages and guidance on materials and dissemination channels. Additionally, VectorWorks will work with UNICEF and the NMCP to provide input into designing the distribution evaluation, determining what baseline data should be used, and determining which, if any, pre- and post-evaluation tools are needed.

**Status:** In January 2018, Ms. Sara Berthe traveled to Kinshasa to participate in the UNICEF and NMCP message design and materials development workshop, which focused on the school-based distribution. Throughout the week, national-level NMCP members worked with provincial-level stakeholders to determine which messages, audiences, and mix of communication channels would be most efficient. By the end of the week, they had drafted logos, posters, leaflets, and a high-quality 20-page comic book. The workshop participants also developed a song to be produced and aired over the radio. Following the workshop, UNICEF and the NMCP worked quickly to finalize the materials, pretest them, revise them, and validate them. At the time of reporting, the school ITN distribution communication team had completed validating the materials and was working on a printing and production schedule.

During the same technical assistance visit in January, Ms. Berthe met with the UNICEF malaria focal point, Dr. Patience Mashako, to discuss the distribution evaluation, and to share French-language protocols and questionnaires. The evaluation will need baseline data, and Ms. Berthe and Dr. Mashako also discussed the pros and cons of having UNICEF launch baseline data collection versus use the recently collected Multiple Indicator Cluster Surveys data from the three provinces. In the end, given both time and financial constraints, VectorWorks recommended that UNICEF use the Multiple Indicator Cluster Surveys data. Unfortunately, due to restructuring at UNICEF, Dr. Mashako's contract ended at the end of February 2018. Despite following up with the new malaria focal point, Dr. Tony Byamungu, we have not yet finalized the post-campaign evaluation plan.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Finalized SBCC messages and materials	PMI, UNICEF, NMCP	Quarter 3	Share by email with PMI	On schedule
2. Finalized evaluation methodology	PMI, UNICEF, NMCP	Quarter 3	Share by email with PMI	On schedule
3. Finalized school-based distribution assessment tool	PMI, UNICEF, NMCP	Quarter 3	Share by email with PMI	On schedule

## DRC.PM.1 Work Plan and Reporting

**Brief activity description:** VectorWorks provides an annual work plan to be approved by PMI, as well as quarterly financial and semiannual progress reports. VectorWorks understands that USAID may ask us to provide information as needed for the PMI annual report, strategic planning, VIP visits, congressional reports, and other purposes.

**Status:** On September 5, 2017, VectorWorks submitted the Year Four work plan to PMI DRC for review. This work plan was approved on October 2, 2017. A work plan modification, to add activity DRC.3, was approved on January 22, 2018. All quarterly financial reports have been submitted. This document is the Year Four semiannual report.

Deliverable	Audience	Timing	Dissemination Plan	Status
Work plan	PMI	Quarter 1	Share by email with PMI	Submitted to PMI: September 5, 2017; Modification approved: January 22, 2018
Quarterly financial reports	PMI	Quarters 1–4	Share by email with PMI	On schedule
Semiannual progress reports	PMI	Quarters 2 and 4	Share by email with PMI	Herein
Trip report(s)	PMI	Within 2 weeks of travel	Share by email with PMI	Submitted to PMI: December 1, 2017

## Summary of Year Four Activities

VectorWorks Year Four program implementation priorities focused on (1) understanding and addressing the gap between access and use of ITNs through qualitative research to unearth barriers and motivators to ITN use; (2) supporting the NMCP to scale-up the current ITN distribution interventions to reach a larger percentage of the population through mass campaigns and continuous ITN distributions; and (3) creating partnerships with local stakeholders to promote the sustainability and transferability of successful VectorWorks activities. Our Year Four work plan identified specific activities to support these focus issues, and we were largely successful in implementing the activities, although funding delays from the President's Malaria Initiative (PMI) until February 2018 severely affected VectorWorks' ability to implement some activities, particularly in the third topic area of promoting sustainability and transfer of key functions. The VectorWorks project director issued a "stop work order" to the Ghana team on December 14, 2017, which remained in force until February 3, 2018. This contributed to the late start of activities including the school trainings on SBCC and the net use gap study.

VectorWorks and the Noguchi Memorial Institute for Medical Research (NMIMR) completed data collection for the qualitative study on ITN use in March 2018. VectorWorks shared preliminary findings of the barriers to ITN use qualitative study (PowerPoint presentation and summary findings memo) with the PMI Malaria Operational Plans team on March 28, 2018. A draft report is due in May 2018 and we plan to submit a final report by June 2018. Findings will inform malaria control SBCC policy and strategy in Ghana as well as influence SBCC implementation strategies of the NMCP and other PMI-funded projects.

VectorWorks provided technical assistance to the NMCP for planning and implementing the ITN PMD pilot in two districts each in the Volta Region (South Tongu and Akatsi North) and Eastern Region (New Juaben and Asuogyaman) from September 2017 to January 2018. The pilot was necessary because of the shift from paper-based household registration and distribution to the introduction of an app on mobile devices for household registration and distribution. During the pilot, the NMCP and partners delivered a total of 202,725 ITNs to 116,013 households. The pilot provided an opportunity to identify and address problems in the use of the app and informed the selection of the most appropriate mobile electronic device for household registration and ITN distribution. VectorWorks played a coordination role and facilitated formation of four subcommittees (planning and coordination, social mobilization, logistics, and monitoring and evaluation) to provide critical oversight for the key components of the campaign. These subcommittees also developed materials and tools for the pilot and scale-up.

VectorWorks, NMCP, and partners increased access to ITNs through health facilities by ensuring the delivery of a year's worth of stock to health facilities in 9 out of 10 regions, with plans under way to supply Upper West Region with adequate stock to last for a year as well. Although we have not yet implemented the supportive supervisory visits to health facilities as planned in Year Four due to delayed release of funds, VectorWorks received and analyzed ITN distribution data from the District Health Information System (DHIS2) and followed up with regional and district monitoring teams to ensure all health facilities are consistently distributing and documenting ITNs. This follow-up includes continuous reminders to health workers to promote ITN use and care in the health facilities and communities.

Starting in February 2018, through its school SBCC program, VectorWorks trained 10,657 school head teachers and School Health Education Programme (SHEP) coordinators in 53 districts to implement effective SBCC activities aimed at addressing the gap between ITN access and use in schools and the community. VectorWorks plans to conduct school SBCC trainings in 50 districts during the 3<sup>rd</sup> and 4<sup>th</sup> quarters of Year 4. In Year 5, the project will conduct trainings in 43 additional districts. By the end of Year 5, VectorWorks will have completed school SBCC trainings in all 10 regions of Ghana.

## Policy Activities (PC)

### GH.PC.1 Coordination

#### GH.PC.1.A ITN Subcommittee Meetings

**Brief activity description:** VectorWorks contributes to the facilitation and funding of quarterly ITN subcommittee meetings with the NMCP and partners. The key objectives of these meetings are to develop a comprehensive mass campaign plan informed by national policies, to discuss the successes, challenges, and opportunities for different ITN distribution channels (e.g., mass, school and health facility), and to make new policy recommendations for improved ITN use and care. In place of its regularly scheduled quarterly meetings, the ITN subcommittee organized planning and coordination meetings to prepare for the 2018 PMD and preceding pilot. The NMCP invited a number of partners to participate in these planning meetings for enhanced outcomes in the ITN distribution.

The NMCP serves as the chair of the ITN subcommittee meetings and will fund these meetings at the conclusion of VectorWorks.

**Status:** The ITN subcommittee did not have quarterly meetings during the first two quarters of Year Four; however, meetings focused specifically on the PMD replaced them. Notable among these were (1) the PMD planning meetings held at the Mensvic Hotel in Accra on October 12–13, 2017, to plan the PMD pilot and (2) the PMD pilot review meeting held on January 11, 2018, at Sunlodge Hotel in Accra. VectorWorks staff participated in both meetings and contributed in planning and review of the PMD pilot.

In addition to these meetings, PMD focus area subcommittees held four additional meetings to plan and review tools for the PMD campaign. These focus area subcommittees are planning and coordination, SBCC, procurement and supply chain, and monitoring and evaluation/information technology. Each subcommittee includes a representative from VectorWorks to provide the relevant technical inputs. These meetings resulted in development of tools for the campaign and focused area planning. The quarterly ITN subcommittee meetings will resume in Quarters Three and Four to review and resolve PMD issues, and discuss routine health facility ITN distribution and school-based SBCC.

Deliverables	Audience	Timing	Dissemination Plan	Status
Quarterly reports	PMI, GHS, NMCP, ITN subcommittee members	Quarters 1–4	Share by email	Delayed to Quarters 3 and 4

## GH.PC.1.B Malaria Vector Control Oversight Committee Meetings

**Brief activity description:** VectorWorks continues active participation in the quarterly Malaria Vector Control Oversight Committee (MaVCOC) meetings, in order to ensure enhanced synergies, promote effective implementation of activities, and help avoid duplication of effort and activities among implementing partners. This participation enables VectorWorks to report on and share lessons learned from its ITN continuous distribution activities with other stakeholders in the malaria vector control community in order to promote best practices.

**Status:** VectorWorks participated in the 31st MaVCOC Meeting convened by the NMCP on January 11, 2018, at the Sunlodge Hotel in Accra. The meeting included updates on key vector control activities implemented by NMCP and its partners during the last quarter. The NMCP shared lessons learned from the pilot implementation of the PMD campaign using an app on mobile devices, in the Asuogyaman and New Juaben districts of the Eastern Region and Akatsi North and South Tongu of the Volta Region, an activity supported by VectorWorks. NMIMR shared its latest report on the nationwide insecticide resistance monitoring activities, highlighting the high levels of pyrethroid resistance observed across the sites, which, however, showed tremendous reversals when tests were repeated using the pyrethroids in combination with piperonyl butoxide. VectorWorks provided updates on its activities including continuous distribution, support for PMD campaign, and studies earmarked for the year. The second quarter meeting is yet to be held.

Deliverables	Audience	Timing	Dissemination Plan	Status
Quarterly reports	PMI, GHS, NMCP, MaVCOC members	Quarters 1–4	Shared by NMCP via email	Minutes of Quarter 1 meeting shared on January 10, 2018

## GH.PC.1.C Alliance for Malaria Prevention (AMP) and Vector Control Working Group (VCWG) Meeting in Geneva

**Brief activity description:** One representative from MaVCOC, the VectorWorks chief of party, and senior technical advisor participated in the AMP and VCWG meetings to share experiences from Ghana’s continuous distribution program and the PMD campaign pilot and to learn about ITN distribution planning and implementation from other countries. The AMP and VCWG meetings provide the vector control community (researchers, donors, and policy makers) and country program managers the opportunity to share experiences and make recommendations to policy makers in the implementation of vector control activities.

**Status:** The VectorWorks chief of party, senior technical advisor, and the NMCP monitoring and evaluation officer (the MaVCOC representative) participated in this year’s AMP and VCWG meetings in Geneva on February 5–9, 2018. During the AMP and VCWG meetings, VectorWorks specifically sought opportunities to share lessons learned from the successful 2017 school-based distribution campaign and its accompanying SBCC activities, and also learned from the experiences of other countries that have successfully implemented school-based distributions. To encourage participation among the broader vector control community in Ghana, VectorWorks shared information about the meeting with MaVCOC members.

Deliverables	Audience	Timing	Dissemination Plan	Status
Trip report	PMI, GHS, GES	Quarter 2	Share by email	Trip report submitted: February

				26, 2018 Acknowledged by PMI: March 5, 2018
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### GH.PC.1.D Malaria SBCC Subcommittee Meeting Participation

**Brief activity description:** The NMCP’s malaria SBCC subcommittee oversees malaria SBCC activities in Ghana, including activities focused on ITN distribution, use, and care. The subcommittee meetings provide an important platform for influencing SBCC policy based on lessons learned and best practices. VectorWorks staff participate in these meetings in order to provide input on malaria SBCC policy related to ITN distribution. The meetings also enable VectorWorks to learn firsthand about new SBCC policies as they arise and use applicable information to inform SBCC considerations for continuous distribution.

**Status:** The malaria SBCC subcommittee met on March 20, 2018 in the NMCP conference room to plan ‘End Malaria for Good,’ the commemoration event for World Malaria Day 2018. This commemoration event centered on a malaria, HIV/AIDS, and tuberculosis screening program to be held in Ashaiman (a densely populated peri-urban community near Accra). The VectorWorks chief of party participated in the meeting.

Other participants at the meeting included representatives from government institutions (Ghana Health Service public relations directorate, health promotion division), private sector (AngloGold Ashanti malaria control, Zoomlion waste management company), media, and PMI/USAID projects (VectorWorks, Communicate for Health, and Systems for Health).

The following committees were formed to lead specific event components:

- Media events—Use existing media arrangements with Communicate for Health (C4H) to promote the World Malaria Day commemoration and create awareness of malaria prevention and control.
- Events line-up—Draw up activities for the commemoration of the World Malaria Day celebration.
- Corporate partnership—Identify and showcase corporate bodies implementing malaria prevention activities in media events and publications in order to attract more private sector partners into the fight against malaria.

VectorWorks is part of the events line-up and corporate partnership committees.

Deliverables	Audience	Timing	Dissemination Plan		Status
Quarterly reports	PMI, GHS, NMCP, SBCC subcommittee members	Quarters 1–4	Shared by NMCP via email		Minutes from the meeting shared on March 26, 2018

[Canceled in Year Three: GH.PC.1.E West African Regional Network Meeting Participation.]

### GH.PC.1.F American Society of Tropical Medicine and Hygiene (ASTMH)

**Brief activity description:** The VectorWorks Ghana chief of party was to attend the ASTMH conference in November 2017. Participation in the conference was to enable the chief of party to network and share the successes of VectorWorks’ continuous distribution activities in Ghana and learn from other’s experiences. Additionally, participation would have also exposed the chief of party to new strategies for improved implementation of vector control activities, to augment the work that VectorWorks is currently doing.

**Status:** Trip canceled in favor of PMD campaign pilot activities.

Deliverables	Audience	Timing	Dissemination Plan	Status
Trip report	PMI	Quarter 1	Share by email	Trip canceled

### GH.PC.1.G Coordination with the NMCP to Inform Ghana’s ITN Strategy

**Brief activity description:** VectorWorks started engaging the NMCP in a series of meetings to discuss the future landscape of ITN distribution in Ghana. During these meetings, VectorWorks shared information on the history of ITN distributions in Ghana since 2011, including findings from NetCALC analyses and a costing study that VectorWorks will complete in Year Four. The goal of this engagement is to determine the best combination of channels and at what scale to implement them after the 2018 PMD campaign with the aim of devising a plan that is sustainable, cost-effective, and maintains high access to ITNs overtime. Ghana currently uses a combination of mass and continuous ITN distribution channels aimed at achieving universal coverage.

**Status:** VectorWorks held the first meeting in March 2018, with the program manager of the NMCP and VectorWorks chief of party, senior technical advisor, and technical director. During the meeting, VectorWorks briefed the NMCP program manager, Dr. Malm, on the importance of reviewing the ITN distribution strategy to meet the country’s needs from a cost effectiveness perspective. Dr. Malm requested VectorWorks to schedule an in-depth follow-up discussion in Quarter Three. VectorWorks is working with SHEP to fix a date for this meeting.

Deliverables	Audience	Timing	Dissemination Plan	Status
1. Summary report on meetings	PMI, GHS, MaVCOC	Quarter 4	Share by email	On schedule
2. Updated ITN Strategy	PMI, GHS, MaVCOC	Quarter 4	Share by email	On schedule

## Implementation and Capacity-Building Activities (IM)

### GH.IM.1 Support for Health Facility–Based ITN Distribution

[Completed in Year One: GH.IM.1.A Formation and Orientation of National-Level ITN Monitoring Team.]

[Completed in Years One, Two, and Three: GH.IM.1.B Reorientation of Regional and District Health Management Teams for Monitoring of Health Facility–Based ITN Distribution.]

### **GH.IM.1.C Supportive Supervision of Health Facility–Based Distribution**

**Brief activity description:** VectorWorks continues to support routine integrated health facility–based supportive supervision by district teams in 10 regions. The aim of the supportive supervision is to address challenges faced when implementing multiple interventions at the health facility level, including those related to ITN distribution. The integrated monitoring approach ensures judicious use of limited resources by enabling district teams to review and support other health implementation activities in the field, while also focusing on malaria prevention initiatives.

**Status:** Activity delayed to Quarters Three and Four. Delayed PMI funding and the competing priority of the PMD campaign led to a delay in the implementation of on-site supportive supervision of health facility ITN distribution. The new schedule is as follows:

- Quarter Three—Ashanti, Brong Ahafo, Greater Accra, Upper East, and Upper West regions
- Quarter Four—Central, Eastern, Northern, Volta, and Western regions

The VectorWorks team will also begin working with the USAID’s Global Health Supply Chain-Procurement and Supply Management (GHSC-PSM) and C4H projects in Quarter Three to improve the Early Warning Systems Alert (EWSA) and use the existing database of health worker phone numbers to introduce message alerts. The proposed system will address the gaps identified in EWSA and be augmented to not only include text messages about effective stock management, but also reminders about ITN use and care, and documentation and record keeping.

<b>Deliverables</b>	<b>Audience</b>	<b>Timing</b>	<b>Dissemination Plan</b>	<b>Status</b>
Report on on-site supportive supervision of health facility level ITN distribution in 10 regions	PMI, RHMT, NMCP, MCH (maternal child health), EPI	Quarter 4	Share by email	On schedule
Report on the improved EWSA system as well as a number of text messages disseminated by quarter	PMI, RHMT, NMCP, MCH, EPI	Quarter 4	Share by email	On schedule

[Completed in Years One, Two, and Three: GH.IM.1.D Regional Review.]

[GH.IM.1.E Promotion of Health Facility–Based SBCC for Malaria Prevention—Integrated into GH.IM.1.C Supportive Supervision of Health Facility–Based Distribution.]

## GH.IM.1.F Partnership with Health Training Institutions

**Brief activity description:** VectorWorks, in partnership with the NMCP Malaria in Pregnancy Working Group, is advocating for inclusion of health worker training for ITN distribution and SBCC into midwifery training while also working on a longer-term goal of incorporation into their standard curriculum. VectorWorks has similarly engaged with PMI-funded organizations involved in preservice health worker training, such as Maternal and Child Support Project (MCSP), to share VectorWorks training materials for use at a preservice training. The intention is to provide a practical application of ITN distribution and SBCC to community health nurses, midwives, and other health professionals before deployment to their jobs.

**Status:** The VectorWorks project and MCSP held meetings on November 7 and 16, 2017, to share information on how the two projects can best collaborate to ensure the incorporation of education on health facility ITN distribution into routine trainings offered by the MCSP projects to nursing and midwifery institutions. Additionally, VectorWorks and MCSP are working to inform review of the nursing and midwifery schools' training curricula in 2019 so that it will include ITN distribution (target, documentation, and reporting), use, and care.

As a follow-on to previous meetings with MCSP, VectorWorks and MCSP held a one-day orientation session for staff of MCSP involved in preservice trainings on December 12, 2017. Representatives of the Nursing and Midwifery Council and the Ministry of Health also participated. Participants learned about the rationale for distributing ITNs through antenatal care services and child welfare clinics as a keep-up strategy, service delivery documentation of ITNs distribution and reporting requirements, inventory management, ITN use, care and misuse. Trainees were equipped with adequate knowledge of health facility ITN distribution for preservice trainings and advocate for inclusion of it during review of the nurses and midwives training curriculum.

Deliverables	Audience	Timing	Dissemination Plan	Status
Report of meeting with MCSP	PMI, RHMT, NMCP, MCH, EPI	Quarters 1–4	Share by email	On schedule
Draft of training module	Preservice health worker training institutions, PMI, RHMT, NMCP, MCH, EPI	Quarter 4	Share by email	On schedule

## GH.IM.2 Support for Mass ITN Distribution

**Brief activity description:** VectorWorks is supporting the 2018 PMD by serving as a facilitator in bringing together key players and implementing partners to contribute their expertise and resources toward deploying a successful nationwide campaign. Included in this role is ensuring that the campaign steering committee is functioning optimally and supporting the development and review of campaign planning and implementation tools. VectorWorks is also supporting field implementation and participates in regional informative meetings, microplanning meetings, trainings of regional, district, and subdistrict teams, trainings of registration assistants and distribution point attendants, as well as household registration and distribution exercises.

**Status:** VectorWorks provided technical assistance in piloting the use of a locally developed mobile application (NetApp) on mobile devices for household registration and distribution. The NMCP selected two districts in the Volta Region (South Tongu and Akatsi North) and two districts in the Eastern Region (Asuogyaman and New Juaben) for the pilot, which ran from October 2017 to January 2018. VectorWorks support focused on planning, development of campaign guidelines, participation in meetings with regional health management teams to brief them on the campaign, microplanning, district and subdistrict trainings, and supervision of training sessions for registration and distribution point assistants. The team also supervised household registration, ITN distribution activities, and data validation.

VectorWorks also contributed in the post-pilot PMD campaign review meeting held on January 9, 2018, to identify lessons learned and best practices for scale-up. The pilot PMD campaign resulted in the distribution of 202,725 ITNs to 116,013 households in the four districts.

The key lessons learned from the PMD campaign pilot led to the following decisions for the scale-up:

- An updated code card that captures the name of the community and changed from alphanumeric coding to simple numeric coding. This eliminated errors in reading the code and consequent challenges in retrieving household data from the system at the time of distribution.
- An introduction of a structured daily tracking system for registered households to detect missing data after synchronizing the data at the end of each day.
- At the ITN distribution points, the number of assistants decreased from four to three: (1) distribution assistant in charge of data retrieval from the tablet, (2) logistics focal person, and (3) SBCC and crowd control person. During the pilot, two different people handled the roles of SBCC and crowd control, respectively.

VectorWorks facilitated the procurement of technical assistance for app testing by Tropical Health to identify and help fix all identifiable functionality challenges. Tropical Health successfully completed the testing and VectorWorks shared a report with NMCP on March 20, 2018.

VectorWorks is providing technical assistance in the PMD scale-up in the Eastern and Volta regions, which will end in early April, and is supporting the planning of campaigns in Central, Northern, Upper East, and Western Regions. These regions are scheduled to complete their campaigns by June 2018. The campaigns for the remaining three regions (Ashanti, Brong Ahafo, and Greater Accra) and scheduled for Quarter Four.

<b>Deliverables</b>	<b>Audience</b>	<b>Timing</b>	<b>Dissemination Plan</b>	<b>Status</b>
Report on best practices and lessons learned from the PMD pilot	NMCP, PMI, CCP	Quarter 1	Share by email	Report shared with PMI: March 30, 2018
Report on best practices and lessons learned from the full-scale PMD	NMCP, PMI, CCP	Quarter 4	Share by email	On schedule

[Completed in Year Two: GH.IM.2.C Revision of Mass ITN Distribution Guidelines.]

[Completed in Year Two: GH.IM.2.D Lead Mass ITN Distribution in Upper East Region.]

## GH.IM.3 Community Mobilization and Behavior Change Communication.

[Completed in Year One]

[Completed in Year One: GH.IM.3.A Peers for Regular Use of Nets (Peers Run) Program for Schools and Communities-Closeout, GH.IM.3.B Community Mobilization for Point Mass Distribution, GH.IM.3.C Parent Teacher Association Malaria Update Meetings, GH.IM.3.D Publication of Ghana Malaria Action Alert.]

## GH.IM.4 Support for School-Based ITN Distribution

[Completed in Years Two and Three: GH.IM.4.A–C School Distribution Activities.]

### GH.IM.4.D Promotion of School-Based BCC for Malaria Prevention: ITN Use and Care

**Brief activity description:** In Year Three, VectorWorks trained circuit and district officers and school health teams from 72 districts of Ghana. A school health team is made up of the head teacher, school-based SHEP coordinator, teacher responsible for culture, teacher responsible for physical education, and two representatives of students—a boy and a girl. These trainings provide participants with knowledge and skills to effectively incorporate education on malaria and its prevention into the schools' activities and appropriately report on them. In Year Four, VectorWorks plans to train district and circuit officers and school health teams in 103 districts and will train the remaining 41 districts in Year Five. Of the 103 districts planned for Year Four, VectorWorks trained 50 districts in Quarter Two and plans to train the remaining 53 districts in May 2018. The objective of these trainings is to equip teachers and students in basic schools with knowledge of malaria prevention and ITN use and care so they can advocate for proper use and care of ITNs among their peers and the community through Parent Teacher Association (PTA) meetings and community outreach malaria prevention programs.

Additionally, the formation of the school health teams and clubs ensures malaria and other health education programs are well planned and implemented. The school health teams and clubs plan activities in school and the community aimed at promoting household ITN use and care using the *Promoting Malaria Prevention Through Primary Schools—Communication Guide for Teachers*. Both the health teams and clubs will also enhance awareness creation in schools and in surrounding communities on malaria and its prevention to promote school–community interface in malaria prevention activities. The school health teams and clubs serve as the vehicles through which all other school health programs are planned and implemented.

**Status:** VectorWorks facilitated the training of 10,657 head teachers and school-based health teams from 5,595 schools in 50 districts in the Ashanti, Brong Ahafo, Central, and Western regions. A total of 677 district health and education officers received training from VectorWorks in the four regions. Trainings for head teachers and school-based SHEP coordinators in the 50 districts took place in February 2018. Participants included six officers from each district education and health office. Circuit supervisors, with the support of district officers, facilitated the trainings for head teachers and school-based SHEP coordinators. The circuit trainings took place from February 26 to March 2 and March 12–16, 2018.

Trainees were trained on cause and transmission of malaria, impact of malaria, benefits of malaria prevention, malaria prevention messages for key audiences (e.g., students, teachers, parents, and community members), activities for assembly and classroom sessions, and community outreach. A key classroom activity introduced in this year's trainings is the teacher-student net use interaction session, which enables teachers to follow up on children who do not use ITNs in their homes to identify and resolve barriers to net use among the household.

Teams from the remaining 53 districts (in Eastern, Northern, and Volta regions) will receive training in May 2018.

Deliverable	Audience	Timing	Dissemination Plan	Status
Report on training of regional, district officers, and school health teams	PMI, NMCP, GES	Quarters 1–4	Share by email	On schedule
Report on monitoring of activities of school health teams and clubs and teacher-student net use follow-ups	PMI, NMCP, GES	Quarters 1–4	Share by email	On schedule

#### GH.IM.4.E Promotion of Malaria Prevention in Schools and Communities—Collaboration with Peace Corps Ghana

**Brief activity description:** VectorWorks and SHEP will work with Peace Corps volunteers’ Standing with Africa to Terminate Malaria initiative and the Grassroots Soccer activities to scale up promotion of malaria prevention education in schools and communities. Grassroots Soccer is a nonprofit organization that uses soccer to empower communities to stop the spread of HIV. Through this platform, Peace Corps volunteers are able to reach the audience receiving messages about HIV prevention with messages on malaria prevention and in particular information about ITN use and care.

**Status:** VectorWorks and SHEP engaged two Peace Corps volunteers during the school SBCC trainings in Ashanti and Brong Ahafo regions. Peace Corps volunteers served as facilitators for the school and community stencil-tracing activity and supervised training of school head teachers and school-based SHEP coordinators in the circuits where they work. The stencil-tracing activity is an approach in educating students and the community about malaria prevention and ITN use and care. Paintings on walls create excitement and discussion leading to acceptance of malaria prevention messages. Two Peace Corps volunteers were also engaged in the PMD campaign pilot in the Eastern Region and have been an integral part of monitoring household registration and distribution in the Eastern Region communities where they work. As the campaigns progress to other regions, we will engage other Peace Corps volunteers to support communities where they work.

Following collaboration between VectorWorks, Peace Corps, and SHEP in Year 2 and 3, the activity has now been brought to scale and teachers in all school SBCC trainings are taught how to create stencils and paints using indigenous materials and are able to conduct the activity on their own.

Deliverables	Audience	Timing	Dissemination Plan	Status
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Annual report (number of communities engaged and number of school children and community members reached)	PMI, Peace Corps, CCP	Quarter 4	Share by email	On schedule
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#### **GH.IM.4.F Support For Quality ITN Quantification Data for School Distributions**

**Brief activity description:** The need for an accurate quantification system for ITN school-based distribution is imperative. The Education Management Information System (EMIS) collects ITN distribution data directly from schools. However, the use of this system has faced challenges in recent years due to the late release of data and because it does not capture non-registered schools, which account for 15% of schools receiving ITNs. To improve ITN quantification for distribution in schools in Year Five, VectorWorks has formed a task team with representation from the NMCP, Ghana Education Service (GES), GHSC-PSM, and VectorWorks to develop an improved system of ITN quantification for school distributions.

**Status:** VectorWorks had preliminary discussions with the NMCP, GHSC-PSM, and SHEP and plans to develop an improved system for quantification of ITNs for school distribution. These partners proposed a meeting with the Director General of the GES to ascertain steps being taken by the GES toward an improved EMIS. This meeting will take place in May 2018 in Accra and will involve the NMCP manager, VectorWorks chief of party, senior technical advisor, and the SHEP national coordinating team.

<b>Deliverables</b>	<b>Audience</b>	<b>Timing</b>	<b>Dissemination Plan</b>	<b>Status</b>
Terms of reference and timeline	USAID, PMI, NMCP, GES, GHSC-PSM, SHEP, EMIS	Quarter 4	Share by email	On schedule
Report on processes and actions toward establishment of improved quantification system	USAID, PMI, NMCP, GES, SHEP, GHSC-PSM, EMIS	Quarter 4	Share by email	On schedule

#### **GH.IM.4.G School Distribution Evaluation Conceptualization**

**Brief activity description:** In Year Four, VectorWorks will work with the NMCP, PMI, GES, and partners to draft an evaluation protocol for the school distribution channel. Since the inception of Ghana's school-based ITN distribution, there has not been an evaluation of the distribution channel. As Ghana looks to determine the most effective combination of ITN distribution channels, moving forward, an evaluation of school distribution is imperative. The primary outcome measures are the reach of the school channel (percentage of households that received an ITN from school distribution), and the efficacy of the channel (percentage of households with an eligible child that received an ITN through school distribution). The current Demographic and Health Survey and Malaria Indicator Survey questionnaires on source of nets have been updated but it is likely that a specific evaluation of the school channel is needed to provide the necessary planning information. This planning process is underway with the partners (See activity GH.PC.1.g above).

**Status:** Activity is on schedule for Quarters Three and Four.

Deliverables	Audience	Timing	Dissemination Plan	Status
Evaluation protocol and illustrative timeline	USAID, PMI, NMCP, GES, SHEP, EMIS	Quarter 4	Share by email	On schedule

## GH.IM.5 Technical Assistance to Ghana NMCP

[Completed in Year Three: GH.IM.5.1 Technical Assistance to Development of Global Fund to Fight AIDS, Tuberculosis and Malaria Concept Note.]

[Canceled in Year Three: GH.IM.5.2 Analysis Plan to Evaluate Ghana’s Continuous Distribution Strategy, GH.IM.5.3 Evaluation of Ghana’s Mixed School and Mass Distribution, and Implication for Coverage and Value-for-Money.]

## Research, Monitoring, and Evaluation (M&E)

### GH.ME.1 Formative Research Study on Barriers and Facilitators to Net Use

**Brief activity description:** VectorWorks is carrying out a qualitative research study to provide insights on the gap between ITN access and use in Ghana. The study aims to provide a deeper understanding of the motives, decision-making, and practices around ITN use. This information will inform effective social and behavior change messaging and innovative approaches to addressing the net use gap.

**Status:** In Year Four, VectorWorks designed the study protocol, obtained appropriate IRB approvals, and identified and contracted with a local research partner, NMIMR. CCP and NMIMR led data collector training and carried out fieldwork in March 2018. Fieldwork was carried out in three purposively selected sites (Gomoa West, Fanteakwa, and Savelugu districts) across the three ecological zones. In total, we conducted out 18 focus group discussions and seven case studies. VectorWorks shared preliminary results with PMI through a study brief sent via email on March 28, 2018, and a presentation on March 29, 2018. During the remaining two quarters of Year Four, VectorWorks will carry out data analysis and share the full study report with PMI.

Deliverables	Audience	Timing	Dissemination Plan	Status
Presentation on preliminary results	PMI, C4H	Quarter 2	In-person presentation	Shared with PMI: March 29, 2018
Final report	PMI, C4H	Quarter 4	Share by email	On schedule

### GH.ME.2 ITN Durability Monitoring

**Brief activity description:** VectorWorks is collaborating with the Noguchi Memorial Institute for Medical Research (NMIMR) to implement ITN durability monitoring to measure the field performance of ITNs from the 2018 PMD. The design will follow standard PMI guidelines. Researchers will collect data on the physical

state of cohort nets and information on behavioral and household factors that are known to affect the durability of ITNs. In addition, data collectors will take campaign nets for bioassay to study the insecticidal integrity of nets.

**Status:** The Ghana NMCP and partners will complete distribution of ITNs in the Eastern Region in April 2018. VectorWorks plans to conduct training in August 2018 and continue with baseline data collection immediately after the training. VectorWorks has selected a local partner, NMIMR, who will be responsible for data collection. NMIMR and VectorWorks are finalizing the contract and will proceed with local and JHU IRB submission after signing a contract. PMI, NMCP, and VectorWorks held discussions on site selection and VectorWorks expects to finalize decisions on these districts by the end of April 2018.

Deliverables	Audience	Timing	Dissemination Plan	Status
1. JHU and local IRB approved protocol	PMI	Quarter 2	Share by email with PMI	Delayed to Quarter 3
2. Durability monitoring baseline report	PMI	Quarters 2 and 3	Share by email with PMI	Delayed to Quarter 4
3. Durability monitoring data analysis workshop report and agenda	PMI	Quarter 3	Share by email with PMI	Delayed to Quarter 4

## Project Management (PM)

### GH.PM.1 Operations

#### GH.PM.1.A Headquarters Staff

**Status:** Technical, administrative, and high-level management support from VectorWorks headquarters in Baltimore focuses on responding to field office project implementation and administrative needs. Danielle Piccinini and April Monroe provide administrative and technical backstopping while Margie Wild provides financial administration. Hannah Koenker, Matthew Lynch, and Andrea Brown provide higher-level management support.

The VectorWorks Ghana team holds weekly conference calls between headquarters and field teams to discuss project activities and updates.

#### GH.PM.1.B Field Operations

**Status:** Ato Selby, field operations director for VectorWorks, provides technical assistance and field operations support for the project.

#### GH.PM.1.C Field Staff

**Status:** Sylvester Segbaya serves as the chief of party for the project and manager of field staff and operations. The senior technical advisor carries out organization and supervision of field operations. Five program officers assigned to specific regions for their operations undertake the organization and monitoring of field programs in their assigned regions. The program officers are: Victor Laryea, Vivian Abiwu, Mavis

Osafo, Miriam Gyasi and Robert Opoku. Phyllis Amartey-Agyeman provides financial administration management with support from a financial and administrative assistant (Medudzi Agbe) and front desk officer (Rita Abakah). An IT Manager, Roland Nerrison-Ankrah, provides overall IT support for all project activities, and Richard Kpabitey, monitoring and evaluation manager, provides research, monitoring, and evaluation support.

### **GH.PM.1.D Field Office**

**Status:** The VectorWorks Ghana field office operating costs include fuel, vehicle insurance, vehicle maintenance, office rent, generator hire, fuel for the generator and maintenance of facilities.

### **GH.PM.1.E Local Travel**

**Status:** VectorWorks uses project vehicles for activities and operations, two Ford Explorers (2013) and two Nissan Patrols (2016). Air travel is infrequently necessitated for trips to the northern part of the country.

### **GH.PM.1.F Vehicle Repair**

**Status:** The project repaired three vehicles to ensure safe and reliable local transportation for project activities. The two Ford Explorer vehicles (2013) continue to age and therefore attract breakdowns and minor repairs after field trips.

## **GH.PM.2 Technical Assistance and Travel**

### **GH.PM.2.A Technical Assistance Trips—Project Director**

**Status:** Dr. Hannah Koenker, the project director, paid a visit to the VectorWorks Ghana project from October 9-13, 2017. During this visit Dr. Koenker supported the planning for Ghana's mass campaign by reviewing the M&E, SBCC, Logistics and Planning and Coordination plans. Dr. Koenker drafted the waste management section of the PMD campaign and developed a checklist for validating household registration data to ensure data is consistent with average household sizes as indicated in MIS 2016.

Dr. Koenker also held separate meetings with the NMCP and PMI to discuss durability monitoring and agreed to conduct the study in the Eastern Region. The counterfeit net study and the net use gap study were also discussed.

### **GH.PM.2.A Technical Assistance Trips—Field Operations Director**

**Status:** Dr. Ato Selby paid two separate visits to Ghana in January 7-13, 2017 and March 20-31, 2018.

During the first trip Ato Selby participated in a review meeting of the Eastern and Volta regions PMD pilot. The meeting discussed findings from the independent assessments contracted by the NMCP to provide information about the pilot planning and implementation processes. Ato Selby also facilitated the review of roles and responsibilities of all key partners in the mass campaign and supported in updating the template showing the state of preparedness of the country teams for PMD planning and implementation.

During the second visit, Dr. Selby met the NMCP Program Manager and discussed supervision and quality assurance for household registration for PMD, participated in the PMI Implementation partners meeting and MOP stakeholders meeting. Dr. Selby also undertook a field visit to supervise household registration in the Eastern Region and debriefed the district teams (Akwapim South and Fanteakwa) and VectorWorks and NMCP teams (Vector Control and IT lead on NetApp).

## **GH.PM.2.B Technical Assistance Trips—Program Officer**

**Status:** No trips were made to date.

## **GH.PM.2.B Technical Assistance Trips—Research**

**Status:** Ms. April Monroe undertook one trip in March 2018 to support planning and data collection for the qualitative research study. Key activities undertaken during this visit included a meeting with the lead researcher of the Noguchi Institute for Medical Research, Dr. Collins Ahorlu, representatives from the NMCP (George Adu), and Sylvester Segbaya of VectorWorks to plan for the data collectors' trainings and subsequent data collection.

Ms. Monroe travelled to the three sites from March 2-17, 2018 to supervise data collection. The sites included Savelugu District in the Northern Region, Fanteakwa District in the Eastern Region, and Gomoa West District in the Central Region. Each team in all sites were comprised of three data collectors, a team supervisor, and a driver. A debriefing meeting with PMI was held on March 16, 2018.

## **GH.PM.2.C VectorWorks Annual Meeting**

**Status:** In June 2018, the VectorWorks Ghana chief of party and senior technical advisor will travel from Accra to Baltimore for the VectorWorks Annual Meeting. During this meeting the global VectorWorks team will meet to discuss the lessons learned from Year Four and the begin work planning for Year Five.

## **Summary of International Travel**

<b>Trip Purpose</b>	<b>Traveler</b>	<b>Number of Trips</b>	<b>Remarks</b>
ASTMH	VectorWorks chief of party	1	Trip canceled in order to prioritize PMD pilot activities
VCWG (budgeted under code GH.PC.1.C)	MaVCOC representative, VectorWorks chief of party, and senior technical advisor	3	Completed in Quarter 2: February 9–13, 2018.
VectorWorks Annual Meeting	Chief of party and senior technical advisor	2	Quarter 3
Supervision and technical assistance	Project director	1-2	Completed in Quarter 1: October 9–13, 2017
Supervision and technical assistance	Field operations director	6	Two trips in Quarter 2: <ul style="list-style-type: none"><li>• January 7–13, 2018</li><li>• March 20–31, 2018</li></ul>
Supervision and technical assistance	Program officer	2	
Oversight of formative research study	To be determined	1	March 1–17, 2018 (Ms. April Monroe)
Total trips	<hr/>	17–18	7

### **GH.PM.3 Work Plan and Reporting**

In Year Four, the VectorWorks project will provide the following to PMI Ghana:

- Work plan and performance monitoring plan
- Quarterly financial reports
- Semiannual progress report
- Monthly activity plans with dates
- Meeting and training notes, as applicable
- Annual report

# GUINEA

## GN.1 Initial Stakeholder’s Meeting

[Completed in Year Two.]

## GN.2 Detailed Continuous Distribution Assessment

[Completed in Year Three.]

## GN.3 Support to Malaria Strategy Review

**Brief activity description:** The NMCP conducted a review of the National Malaria Strategic Plan while preparing a new request to the Global Fund. After planning and data collection, the NMCP drafted a malaria strategy document in Year Three, Quarter Three. Initially, VectorWorks was asked to provide technical review of the strategy development.

**Status:** PMI in Guinea did not request VectorWorks’ technical review of the National Malaria Strategic Plan. Because the NMCP has finalized the strategy, PMI Guinea agreed to cancel this activity.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Annotated version of National Malaria Strategic Plan, if requested	NMCP and PMI	Quarter 2	Share by email with PMI and NMCP	Canceled (per email on March 28, 2018)

## GN.4 School-Based BCC Message Development Workshop

[Completed in Year Three.]

## GN.5 Continuous Distribution Pilot (2017–2018)

**Brief activity description:** In 2016, the Guinea NMCP began considering the addition of other continuous distribution channels as part of their new national ITN distribution strategy. After discussions with PMI and the NMCP, VectorWorks identified Boffa as a feasible district for implementing a school distribution pilot. VectorWorks was tasked with implementing and coordinating malaria partners in Guinea for this activity.

**Status:** VectorWorks hired two staff, Mr. Soufiana Kaba and Mr. Mamadou Barry, to act as the on-the-ground staff to manage this activity. In October 2017, Ms. Sara Berthe and Mr. Sean Blaufuss conducted an initial scoping visit in Boffa District, as well as national-level stakeholder meetings with the NMCP, Ministry of Education, and health education offices. The team met with the district-level health and education offices to discuss the activity, timing, and need for local assistance. Based on recommendations from the continuous distribution assessment (GN.2), the district-level education team took the lead in managing the activity, with the district-level health office providing ongoing support. At the end of the trip, Ms. Berthe and Mr. Blaufuss presented the suggested implementation plan to the coordination committee, which included the NMCP, PMI, StopPalu+ project, Catholic Relief Services, Peace Corps, and the Global Health Supply Chain-Procurement and Supply Management project.

Following the establishment of both the national- and district-level coordination committees, the two committees held monthly meetings. At the meetings they completed the following activities: school-level data collection and validation, message validation and materials development for all SBCC activities, identification of storage facilities for ITNs at the district and sub district levels, creation and validation of training materials, and the development and validation of a supervision plan for the ITN distribution. Radio programs (short and long format) began airing in early March 2018, airing between two and four times per day. VectorWorks worked closely with parent-teacher association associated with all primary schools, community health workers, and religious leaders, to disseminate SBCC and distribution messages.

A local private logistics company transported ITNs to each sub district level on March 2 and 3, 2018. Training of trainers began on March 28, 2018, followed by cascade training on March 31, 2018. The project launch occurred on April 3, 2018, in Tamita, a school in the Koba sub district of Boffa. Distribution and supervision occurred on April 4, 2018 throughout the district. Overall, the pilot was a success, despite isolated challenges with ITN quantification, lack of availability of distribution materials at certain sites, and confusion with waste management guidelines.

VectorWorks staff in Baltimore finalized the evaluation methodology and subcontract with a research firm in Guinea in February 2018. The survey is expected to field in late April into May.

**Challenges and delays:** We experienced two setbacks in timing. The PMI Malaria Operational Plan meeting, scheduled on March 5–9, required that we push our activities back by one week, in order for the NMCP to participate in the activity. More serious, however, was a teacher’s strike that began on February 11 and ended on March 14. This teacher’s strike was nationwide and affected both public and private schools. Although it ended late on March 14, 2018, VectorWorks and the NMCP recommended waiting an entire week for school to resume on a normal schedule before introducing the distribution activity.

Deliverable	Audience	Timing	Dissemination Plan	Status
5.1 Trip report from scoping visit	NMCP	Quarter 2	Share by email with PMI and NMCP	Acknowledged by PMI: November 28, 2018
5.2 Detailed timeline of implementation and evaluation	NMCP, PMI, and implementing partners	Quarter 2	Share by email with PMI and NMCP	Delayed to Quarter 3
5.3 Final SBCC materials for pilot	NMCP and PMI	Quarter 2	Share by email with PMI and NMCP	Delayed to Quarter 3
5.4 Final training materials, agendas, and participants list	NMCP and PMI	Quarter 2	Share by email with PMI and NMCP	Delayed to Quarter 3
5.5 Final evaluation report	NMCP, PMI, and implementing partners	Quarter 3	Dissemination meeting with NMCP, PMI, and key malaria stakeholders	On schedule

## GN.PM.1 Work Plan and Reporting

**Brief activity description:** VectorWorks will provide PMI with an annual work plan (for approved by PMI Guinea), quarterly financial reports, and semiannual progress reports. VectorWorks understands that PMI may ask for further information, as needed by USAID, for the PMI annual report, strategic planning, VIP visits, and congressional reports.

**Status:** VectorWorks' submitted the Year Four work plan on August 31, 2017, and received approved on October 3, 2018. Quarterly financial reports are on schedule.

Deliverable	Audience	Timing	Dissemination Plan	Status
Annual work plan	PMI	Quarter 1	Share by email with PMI	Submitted to PMI: August 31, 2017. Approved on October 3, 2018
Quarterly financial reports	PMI	Quarters 1–4	Share by email with PMI	On schedule
Semiannual progress reports	NMCP, PMI, and implementing partners	Quarters 2 and 4	Share by email with PMI	Quarter 4: Report submitted (herein)

# KENYA

## KY.1 Initial Meeting to Review Existing and Draft ITN Strategies, Guidelines, and Plans, and to Determine Technical Assistance Needs

[Completed in Year Three.]

## KY.2 Desk Review of Documents Related to ITN Distribution Since 2010

**Brief activity description:** Kenya requested assistance from VectorWorks to review existing documentation to inform Kenya’s strategy on ITNs and comprehensive approach to sustaining ITN coverage. Kenya piloted and has also fully implemented a number of channels for distributing ITNs. In project reports and updates, the NMCP and its implementing partners documented most of the pilot activities and implementation processes. The VectorWorks project and NMCP, with a consultant, conducted a Web search on ITN distribution channels in Kenya, collected reports, and interviewed implementing partners at all levels.

**Status:** VectorWorks completed the desk review in Year Three and submitted it to PMI on February 21, 2017. The report was approved in Year Four.

Deliverable	Audience	Timing	Dissemination Plan	Status
KY.2.1 Final desk review report of channels used for ITN distribution in Kenya	PMI, NMCP, and implementing partners	Year 3 Quarter 2	Shared by email and in technical working group meetings	Approved by PMI: February 26, 2018

## KY.3 Field Assessment to Determine Operational Parameters of Current and Potential Channels for ITN Continuous Distribution at County and Sub-County Levels

**Brief activity description:** Health-facility-based ITN distribution in Kenya is ongoing through antenatal clinics and immunization programs. Community-based ITN distribution and social marketing programs for ITNs have also been piloted in Kenya. NMCP and implementing partners are also considering school-based ITN distribution for the future. At a stakeholders’ meeting in Year Two (KY.1), NMCP and implementing partners requested a feasibility assessment of the existing and newly proposed ITN distribution channels to provide information on their viability at scale and to inform Kenya’s revised ITN distribution strategy.

**Status:** VectorWorks conducted the field assessment from November to December 2016. PMI approved the trip report in Year Three. VectorWorks first shared the field assessment tool in Year Three Quarter One, but official approval was not received until Year Four. All deliverables have now been approved.

Deliverable	Audience	Timing	Dissemination Plan	Status
KY.3.1. Final tool for field assessment to verify feasibility of proposed channels for ITN distribution	PMI, NMCP, Ministry of Health (MOH), Ministry of Education (MOE), and implementing partners	Year 3 Quarter 1	Shared by email	Approved by PMI: February 26, 2018
KY.3.2. Trip report for field assessment to verify feasibility of proposed channels for ITN distribution	PMI, NMCP, MOH, MOE, and implementing partners	Year 3 Quarter 2	Shared by email	Approved by PMI: June 1, 2017

### KY.4 Meeting to Consolidate Findings from Desk Reviews, Field Assessments, and Other Studies

[Cancelled per email with PMI on November 13, 2017.]

### KY.5 Develop a Guidelines Document for ITN Distribution in Kenya

**Brief activity description:** VectorWorks developed a draft guidelines document for implementing ITN distribution in Kenya through agreed upon channels. This guidelines document describes activities and steps for effectively implementing ITN distribution. It expands on planning and coordination; ITN quantification and logistics; trainings; ITN distribution, documentation, and reporting; education of beneficiaries on malaria messages; and monitoring and supervision of ITN distribution activities.

**Status:** VectorWorks shared the guidelines document for ITN distribution with PMI in Year Three. The report was approved in Year Four.

Deliverable	Audience	Timing	Dissemination Plan	Status
KY.5.1 Draft and final ITN distribution guidelines	PMI, NMCP, MOH, MOE, and implementing partners	Quarter 1	Shared by email and in technical working group meetings	Approved by PMI: February 26, 2018

### KY.6 Technical Assistance for Pilot Implementation of Selected Channel(s) for ITN Distribution

[Cancelled per email with PMI on November 13, 2017.]

### KY.7 ITN Durability Monitoring

**Brief activity description:** VectorWorks will oversee durability monitoring of ITNs that were distributed as part of the 2017 mass campaign. VectorWorks will work with Tropical Health and a local research firm to

follow DuraNet ITNs in Busia and Kwale counties. This consortium will study the physical durability of campaign nets and conduct bioassays to examine the insecticidal integrity of campaign nets. PMI guidelines suggest that nets be followed prospectively for three years. VectorWorks will manage baseline and the first round of follow-up before the remainder of this activity is transferred to a different funding mechanism.

The primary objectives of the ITN durability monitoring are to:

- Monitor the physical and insecticidal durability of ITNs in two locations in Kenya during a three-year period and estimate the median ITN survival
- Compare results with findings from other locations across Africa with similar net brands
- Strengthen the capacity of NMCP and other partners in the design, implementation, analysis, and interpretation of ITN durability monitoring, based on PMI guidelines
- Describe major environmental and behavioral aspects of net use, care, and repair, as well as their impact on the physical durability

**Status:** NMCP distributed nets in the selected sub counties in December 2017 and January 2018.

VectorWorks plans to conduct training for this activity from April 23 to 27, 2018. Tropical Health will lead the training and work with the Pan African Mosquito Control Association, the local research firm identified to prepare data collectors for field work. Baseline fieldwork will begin the week following training to ensure that data collection is complete during the six months following the mass campaign. Tropical Health has identified the clusters at each site where data collection will take place. VectorWorks Kenya staff submitted all necessary documents to the Kenya Medical Research Institute for local IRB approval in mid-March and is waiting for approval. The Johns Hopkins University IRB is also in the process of reviewing the documents; they will approve the documents pending local approval and minor changes to the study protocol. Both of these are expected to be completed before training commences. Tropical Health expects to complete data analysis and report writing within 90 days after data collection is complete. Based on current estimates, this will be in mid to late August.

Deliverable	Audience	Timing	Dissemination Plan	Status
7.1 Final study protocol and tools approved by IRB	PMI, local research firm, NMCP, MOH	Quarter 2	Share by email	Delayed to Quarter 3
7.2 Baseline report	PMI, local research firm, NMCP, MOH	Quarter 4	Share with PMI by email	On Schedule
7.3 12-month report	PMI, local research firm, NMCP, MOH	Year 5 Quarter 4	Share with PMI by email	On Schedule

## KY.8 ITN Durability Monitoring Data Analysis Workshop (Year Five)

**Brief activity description:** Dr. Albert Kilian will facilitate a data analysis workshop in Year Five with malaria stakeholders in Kenya. The workshop will aim to strengthen local capacity that will allow the Kenya NMCP and local partners to conduct ITN durability monitoring independently in the future. Participants will use data from baseline to explore analysis and interpretation of key durability monitoring variables.

**Status:** This activity will take place in Year Five. VectorWorks has not yet set a date and does not plan to begin preparations until after baseline data collection takes place.

## KY.PM.1 Work Plan and Reporting

**Brief activity description:** VectorWorks provides PMI with an annual work plan, quarterly financial reports, and semiannual progress reports for approval.

**Status:** VectorWorks has submitted all reports on time.

Deliverable	Audience	Timing	Dissemination Plan	Status
Annual work plan approved by PMI Kenya	PMI	Quarter 1	Share by email	Approved by PMI: December 11, 2017
Quarterly financial reports	PMI	Quarters 1 to 4	Share by email	On Schedule
Semiannual and annual progress reports	PMI	Quarters 2 and 4	Share by email	Herein

# LIBERIA

## L.IM.1 County and Health Facility–Level Orientations

[Completed in Year Three.]

VectorWorks completed this activity in Year Three, but we continue to provide ongoing technical support to community health trainers in monitoring and distributing (LLINs to health facilities, and identifying partners to transport LLINs from county depots to the health facilities as described in the Year Four work plan. Getting LLINs to health facilities from the county depots has been a major challenge. VectorWorks, with the NMCP, is working with the county health team to identify in-county implementing partners that can help distribute LLINs from the depots to the health facilities. VectorWorks submitted a first draft of a partner’s map that identifies partners, areas of focus, and locations to PMI Liberia in May 2017. As we identify new partners, VectorWorks and NMCP will update the list.

Deliverable	Audience	Timing	Dissemination Plan	Status
County and health facility orientation	NMCP, FHU, and PMI	Quarter 1	Share by email with NMCP and PMI	Training is complete for 845 health facilities and 5,560 reproductive health supervisors across all 15 counties of Liberia
Summary update of status of Year 2 trainings in 13 counties	PMI	Year 3	Share by email with NMCP and PMI	Trainings are complete

## L.IM.2 Monitoring of ANC/ID LLIN Distribution

**Brief activity description:** VectorWorks is conducting monitoring of county health personnel to reinforce the on-the-job orientations (L.IM.1), and to ensure that distribution of LLINs at ANC visits and institutional delivery (ID) is operating smoothly. The goal is to ensure quality of service delivery and reporting. Although VectorWorks expects health workers to conduct distribution processes properly after they receive training, monitoring and supervision of LLIN distribution activities in health facilities is essential. With financial and technical support from VectorWorks, NMCP is assisting the County Health Management Team (CHMT) to monitor health facility–based LLIN distribution at health facilities in six priority southeast counties. In addition, the National Health Management Team (NHMT) conducts semiannual monitoring of the health facility–based LLIN distribution at the county, sub-county, and health facility levels.

**Status:** VectorWorks and NMCP have completed the Year Three monitoring visits. All reports are forthcoming and we expect to submit them by the end of Year Four. VectorWorks is writing the reports in collaboration with members of the CHMTs and NMCP, which has led to delays in submission. We will add the data from these reports to the summary table as requested by PMI.

In Year Four, VectorWorks, with the NMCP and NHMT, prioritized the monitoring of six counties in the southeast including Grand Gedeh, Grand Kru, Maryland, River Cess, River Gee, and Sinoe. In collaboration

with the NMCP, Family Health Division (FHD), Supply Chain Management Unit (SCMU)-Ministry of Health (MOH), VectorWorks completed the monitoring visits in River Cess and Sinoe counties March 4–10, 2018.

The findings from the monitoring visits showed that out of the 4 health facilities monitored in Sinoe County, 3 health facilities had ITNs in stock and one never had ITNs in stock. In response to the stock outs, the national monitoring team assisted in transporting one bale of ITNs and other commodities to the health facility that was out of ITNs and other commodities. The monitoring team found inconsistencies in accurate recordkeeping of ANC LLINs issued in the ledgers, but all health facilities had LLINs in stock.

In River Cess County, the findings included three out of the four health facilities visited had no LLINs in stock. The monitoring visits found LLINs at all the county depots, but only a few health facilities had received LLINs despite Last Mile Health and WHO partners in the area. The monitoring team mentored the Maternal Child Health Supervisor staff from each facility on how to request additional LLINs and engage implementing partners in the area to support the delivery of nets. The stock-outs at the health facilities are likely due to a change in the delivery system. Previously, the USAID | DELIVER PROJECT distributed nets to the health facilities, but under the current mechanism, the GHSC-PSM project only delivers to the county level and rely on implementing partners or the health facility workers themselves to manage or pay for the transport from the county depots to the facility.

As part of the monitoring effort in Year Three, VectorWorks supported the NMCP in developing a mapping of partners so implementing partners in the counties can help deliver LLINs to the health facilities from the county depots and monitor the distribution and reporting process of LLINs given at ANC visits and institutional delivery. After the recent monitoring visit in River Cess, it was clear that implementing partners Last Mile Health and WHO have not been supporting the transporting of nets from the county depot to the health facility. VectorWorks will follow up with PMI and GHSC-PSM project on solutions for getting nets to the health facilities in River Cess County.

VectorWorks provided mentoring and coaching for improved data recording and education on net use and care to all eight health facilities visited. VectorWorks is in the process of summarizing all data from the monitoring visits in one table for all the counties monitored for discussion with the NMCP and GHSC-PSM project.

The table below summarizes the monitoring visits, including dates, counties visited, and number of health facilities visited.

Dates of Monitoring Visit	Counties Visited	Number of Health Facilities Visited
November 14–23, 2016	Grand Cape Mount, Bomi, Gbarpolu, Bong, and Grand Bassa	30
January 26 to February 8, 2017	Montserrado	5 hospitals
April 15–23, 2017	River Gee, Grand Gedeh, Maryland, and Grand Kru	16
June 12–16, 2017	Nimba	13
July 31 to August 4, 2017	Margibi and Montserrado	5 hospitals
September to December 2017	Montserrado	2 health facilities and 1 hospital (St. Joseph Catholic Hospital and Duport Road Health Center)
March 4–10, 2018	River Cess, Sinoe	8
April 7–15, 2018	Grand Gedeh, River Gee, Maryland, Grand Kru	6

Deliverable	Audience	Timing	Dissemination Plan	Status
2A. Quarterly monitoring reports (submitted by CHMTs)	NMCP, FHU, and PMI	Quarters 1–4	Share by email with NMCP and PMI	Monitoring visits took place in 8 health facilities in 2 counties.  Submitted report from Sinoe and River Cess: March 30, 2018. Received acknowledgement from PMI: April 2, 2018
2B. Semiannual NHMT monitoring report	NMCP, FHU, and PMI	Quarters 1 and 4	Share by email with NMCP and PMI	The NHMT continues to monitor health facilities in Montserrado

### L.IM.3 County Review Meetings on ANC/ID LLIN Distribution

**Brief activity description:** VectorWorks is working with the NMCP, Family Health Unit (FHU), and CHMTs to conduct review meetings and comprehensive assessments of the trainings conducted, health workers’ knowledge of the health facility–based LLIN distribution process, and logistics management and reporting of LLIN distribution in each of the six southeast counties.

**Status:** VectorWorks, NMCP, SCMU, and Family Health Division (FHD) supported and led the review meeting for two counties: Sinoe and River Cess. The meeting took place on March 7, 2018, and brought together 27 participants (Males=15, Females=12) out of the 27 participants 18 were reproductive health supervisors from the two counties. Each county made a presentation on the LLIN distribution process and the status using a presentation template that VectorWorks provided. The meetings went well, with full participation from all reproductive health supervisor’s present and other implementing partners including Jhpiego and WHO.

Achievements recorded from the meetings include the majority of the health facility staff understanding the distribution protocol of giving one LLIN at the first ANC visit and again at delivery at the health facility. The county health workers reported that WHO and JHPIEGO are assisting the Sinoe County and Last Mile Health and WHO in River Cess to deliver nets from the county depot to the health facilities, although there was no actual plan for the support.

Challenges identified include the Maternal Child Health Worker (MCH) are not requesting additional LLINs when they run low or run out. Sinoe County does not have reproductive health supervisors at the district level, which changes the reporting roles and responsibilities compared to other counties. In River Cess the report collection is slow due to the far distances to some of the health facilities and lack of fuel supply. VectorWorks noted that requests for LLINs and other commodities should include consumption data, which has not been happening. For both Sinoe and River Cess counties, the health facility workers are working from an old delivery ledger that has no space to enter the data for nets distributed after delivery in some health

facilities. The monitoring team advised them to add a column in the ledger to record these distributed nets.

The table below summarizes the review meetings, including dates and the number of counties present for each meeting.

Date of Review Meeting Visit	Counties Present
April 17, 2017	Maryland, River Gee, Grand Gedeh, and Grand Kru
July 17, 2017	Bong, Lofa, Margibi, and Nimba
August 31, 2017	Montserrado
March 5, 2018	Sinoe and River Cess
April 7–15 , 2018	Grand Gedeh, River Gee, Maryland, Grand Kru (information to be reported in the next annual report)

Deliverable	Audience	Timing	Dissemination Plan	Status
County review meeting reports	NMCP, FHU, and PMI	Quarters 3 and 4	Share by email with NMCP and PMI	Completed 9 county review meetings in Year 3.  Submitted the Sinoe and River Cess review meeting report: March 30, 2018

#### L.IM.4 Post-Net-Process

[Completed in Year Two.]

#### L.IM.5 Revision of LLIN Continuous Distribution Documentation Job Aid

[Completed in Year Three.]

#### L.IM.6 Print Big Belly Cards and Postnatal Care Ledgers

[Completed in Year Three.]

#### L.IM.7 Capture Data on the ID Nets Distributed

[Completed in Year Three.]

#### L.IM.8 Orientation of Implementing Partners on ANC/ID Distribution

**Brief activity description:** The NMCP, FHU, and VectorWorks will conduct a one-day orientation for national level identified implementing partners working with health facility personnel in the counties. They will be oriented on the processes and protocol for distributing LLINs at ANC and ID, how to conduct a comprehensive supportive supervision visit using a checklist, and how to work with health workers to improve data capture and reporting. The orientation will include strategizing how to ensure nets get from the county depots to the

health facilities. After the orientation, implementing partners will work with County Health Integrated Monitoring Teams (CHIMTs) to plan supervision visits to health facilities and share quarterly reports on supervision of LLIN distribution at ANC visits and ID in health facilities in their counties.

**Status:** The orientation has been delayed to Quarter Four. The delay is in part due to a stop work order due to a delay in USAID funding. The stop work order went into effect on December 2, 2017 and was lifted on February 2, 2018. The implementing partner orientation has also been delayed in order for the project to address PMI’s request to prioritize the national LLIN mass campaign. VectorWorks plans to conduct the orientation at PMI’s next quarterly implementing partner meeting.

Deliverable	Audience	Timing	Dissemination	Status
Final mapping of implementing partners working with health facilities in counties	NMCP, FHU, PMI	Quarter 1	Share by email	Ongoing. The mapping of implementing partners is continually updated with the new implementing partners
Orientation reports, attendance list (2 meetings)	NMCP, FHU, PMI	Quarter 2	Share by email	Delayed to Quarter 4

## L.IM.9 Forecasting of LLIN Stocks and Resupply

**Brief activity description:** VectorWorks will work with NMCP and FHU to use available health management information system (HMIS) data (for at least the past two years) on annual attendance for ANC first visit and ID to quantify the average monthly and annual LLIN needs for each health facility and aggregated for each county. The Central Medical Stores (CMS) and GHSC-PSM will use this LLIN quantification information to supply LLINs to each county, based on their logistics management plan.

**Status:** The forecasting of LLIN stocks and resupply has been delayed to Quarter Four. The delay is in part due to a stop work order. The forecasting of LLIN stocks and resupply support has also been delayed in order for VectorWorks to address PMI’s request to prioritize the national LLIN mass campaign. VectorWorks will start engaging the NMCP in May 2018 to work with GHSC-PSM and CMS to ensure that county stores and health facilities personnel are aware of the agreed minimum LLIN stock thresholds and make timely requests for LLIN resupply. We will continue to check LLIN stocks during monitoring visits.

Deliverable	Audience	Timing	Dissemination	Status
Quantification of average monthly/ annual LLIN needs for all counties and health facilities	NMCP, FHU, CMS, GHSC-PSM, CHIMTs, implementing partners, PMI	Quarter 1	Share by email	Delayed to Quarter 4

## L.IM.10 SBCC for ANC/ID LLIN Distribution

**Brief activity description:** VectorWorks and the monitoring team, which includes NMCP and FHU, will reinforce the existing social and behavior change communication (SBCC) materials, such as the continuous distribution job aid developed in Year Three that educates health workers, mothers, and communities on LLIN distribution during ANC visits and at institutional delivery and the benefits of LLIN use.

**Status:** VectorWorks continues to include SBCC for ANC and ID as part of the monitoring visits (L.IM.2) and review meetings (L.IM.3). VectorWorks and the monitoring team check on the health facility workers' understanding of the SBCC messages and what materials each health facility has available for ANC and ID. The SBCC component is included in the monitoring checklist. The monitoring team reinforces the messages and demonstrates interactive ways to communicate to pregnant women, such as net-hanging demonstrations.

## L.DM LLIN Durability Monitoring

**Brief activity description:** VectorWorks will support the implementation of durability monitoring for mass campaign LLINs, based on standard PMI guidelines for durability monitoring. This activity will provide the NMCP and PMI with valuable information about the performance of LLINs distributed during the 2018 mass campaign as well as strengthen in-country capacity to undertake durability monitoring. The findings from this study, VectorWorks will do the following:

1. Monitor the physical and insecticidal durability of LLINs in Liberia during a three-year period and to estimate the median LLIN survival.
2. Compare results with findings from other locations across Africa with similar net brands.
3. Strengthen the capacity of NMCP and other partners in the design, implementation, analysis, and interpretation of LLIN durability monitoring, based on PMI guidelines.
4. Describe major environmental and behavioral aspects of net use, care, and repair; and their impact on the physical durability.

**Status:** VectorWorks selected a local research firm, UL-PIRE, to conduct the study, and is in the process of finalizing their contract. VectorWorks has started to compile documents for ethical approval from the relevant local authorities and the Johns Hopkins University IRB and will submit them as soon as the contract is in place. VectorWorks expects to submit an application to the local IRB by the end of May 2018. VectorWorks, NMCP, and the partners at UL-PIRE are discussing the site selection. Tropical Health is in the process of identifying a laboratory to do the bioassays.

The baseline data collection will occur after distribution in 2018, currently proposed for July 2018. After the baseline data collection, VectorWorks will submit a baseline report by September 2018.

Deliverable	Audience	Timing	Dissemination	Status
1. JHU and local IRB approved protocol	NMCP, PMI	Quarter 3	Share by email	In preparatory stage. Intend to submit local IRB by May 2018.
2. Durability monitoring baseline report	NMCP, PMI	Quarter 4	Share by email	On schedule

## L.MA.1 Support to Mass LLIN Distribution Activities—Before, During, and After Campaign

**Brief activity description:** VectorWorks collaborates with IFRC and AMP, under the coordination of the NMCP, to provide complementary technical assistance and quality control to the NMCP and Plan International in facilitating the planning, training, transportation, and distribution efforts related to the mass distribution campaign in 2018.

**Status:** VectorWorks was involved in the beginning stages of planning for the 2018 mass campaign that began in March 2017. VectorWorks joined NMCP and AMP consultants for a two-day macroplanning meeting in Margibi and Kakata on March 23–24, 2017. VectorWorks also participated in a six-day SBCC workshop on materials and message development for the 2018 LLIN mass distribution campaign on September 11–16, 2017. Unfortunately, the SBCC subcommittee stopped meeting after the workshop due to the lack of scheduled meetings and busy schedules of the NMCP. VectorWorks also did not insist on continuing the meetings as the project SBCC leader, VectorWorks LLIN manager, Ms. Marietta Yekee, had a stroke and was unable to participate or provide ongoing guidance. VectorWorks support was therefore limited from October to December 2017. In December, Ms. Andrea Brown met with the NMCP and Plan International during a short-term technical assistance visit to discuss the communication plan and identified gaps and potential SBCC challenges, such as a funding shortage to complete the advocacy meetings across the country, and a plan for what to do with missed households and LLIN shortages.

After many delays and challenges in obtaining a visa, two AMP technical assistance providers, Mr. Kamel Maina and Jeronimo Zandamela, arrived in Liberia in February 2018 as the universal coverage campaign planning intensified. VectorWorks attended the weekly international coordination calls remotely as well as the weekly AMP partners' call and provided support when requested. Unfortunately, with Ms. Yekee on leave, VectorWorks did not attend any of the in-country coordination meetings from February to March 2018. In early March 2018, PMI and the AMP technical assistance providers identified issues with the communication component of the campaign. These issues included limited visible communication accompanying the campaign, lack of communication not being incorporated into the training upstream so households were not getting messages around distribution points, incorrect messaging in some counties, and the general lack of leadership and coordination at the national level for all SBCC activities. VectorWorks responded by sending Ms. Brown to Liberia to put a plan in place and identify tasks and assign roles and responsibilities for VectorWorks and the NMCP to address the communication implementation challenges. VectorWorks is now fully engaged in the weekly coordination meetings and is providing more hands-on support to the NMCP in drafting communication concept notes, media plans, and hiring a short-term consultant to more thoroughly support the SBCC efforts for the universal coverage campaign.

Deliverable	Audience	Timing	Dissemination Plan	Status
Review the AMP technical assistance report; provide support for mass campaign planning	PMI, NMCP, MOH, and implementing partners	Quarter 4	Share by email with NMCP and PMI	Ongoing

### L.MA.2 Support for LLIN Distribution to Identified Institutions

**Brief activity description:** VectorWorks drafted guidelines on distribution to institutions—including boarding schools and Army barracks—to incorporate into the planning of the 2018 mass LLIN distribution.

**Status:** On September 9, 2016, NMCP made a one-time distribution of 467 bales of LLINs to 10 institutions. The NMCP and the IFRC will consider these private institutions after the mass distribution campaign and distribution at ANC visits and at institutional delivery, if LLINs remain. VectorWorks developed guidelines for distributing LLINs to institutions and shared these guidelines with the NMCP and AMP for their consideration in planning after the national mass campaign. VectorWorks submitted the guidelines to PMI and is awaiting approval.

Deliverable	Audience	Timing	Dissemination Plan	Status
Guidelines on LLIN distribution to institutions	PMI, NMCP, MOH, institutions (boarding schools, Army barracks, etc.), and implementing partners	Quarter 1	Share by email with NMCP and MOH	Shared draft with NMCP in 2017.  Submitted final guidelines to PMI on March 23, 2018. Pending approval.

### L.MA.3 SBCC for LLIN Mass Campaign

**Brief activity description:** Liberia is in the process of conducting a large-scale mass LLIN campaign. VectorWorks provided financial and technical support for the NMCP to conduct district-level advocacy meetings in seven hard-to-reach counties including Rivercess, Sinoe, Grand Gedeh, Grand Kru, Maryland, River Gee and Gbarpolu to inform local authorities about the upcoming LLIN mass distribution campaign and gain their support.

**Status:** VectorWorks in partnership with NMCP and the National Health Promotion Division of the MOH conducted advocacy meetings in 25 districts within the seven targeted hard-to-reach counties over a period of 14 days between January 28 and February 10. These meeting took place in the following seven counties: Gbarpolu, Grand Gedeh, Grand Kru, Maryland, River Cess, River Gee, and Sinoe. In total, 14 meetings took place across the seven counties with a total of 658 participants.

These advocacy meetings provided knowledge to participants on the new campaign strategy including information on malaria prevention, universal coverage LLIN campaign, door-to-door registration of household members, vouchers (one LLIN per voucher), and information around fixed distribution sites, which is new to Liberia.

Supporting the advocacy meetings, VectorWorks produced three radio spots in both English and in the local dialect for all seven counties. VectorWorks supported the radio spots to be separated into three district compact discs with a clear airing schedule for the stations. VectorWorks will establish a contract with 16 community radio stations and 5 urban radio stations in Montserrado to air messages about the upcoming mass campaign. VectorWorks developed a monitoring log tool to ensure that radio stations are airing the messages and that communities understand them. VectorWorks also engaged the Health Promotion Focal persons in each county to monitor the airing of these pre, during and post messages. VectorWorks will continue to work with the districts to provide updated information on dates and distribution points through local radio.

<b>Deliverable</b>	<b>Audience</b>	<b>Timing</b>	<b>Dissemination Plan</b>	<b>Status</b>
In collaboration with NMCP and Plan International, VectorWorks will submit a report on the advocacy meetings	NMCP, GOF, PLAN, PMI	Quarter 2	Share by email	Submitted report to PMI: March 28, 2018. Pending approval.

## **L.PC.4 VectorWorks Annual Partners’ Meeting 2017**

[Completed in Year Three.]

### **Follow up actions and recommendations**

VectorWorks continues to provide PMI Liberia a weekly update that includes key updates, upcoming VectorWorks activities, deliverables pending, and deliverables with PMI for review. VectorWorks is in the process of putting together a summary table highlighting any challenges and lessons learned from the health facilities who have been monitored.

# MALAWI

## MW.1 AMP Technical Assistance for Mass Campaign

**Brief activity description:** VectorWorks will provide technical assistance both in-country and via distance support to strengthen the quality of the campaign and support the National Malaria Control Program (NMCP). VectorWorks will engage a consultant from the Alliance for Malaria Prevention (AMP) to support general campaign planning, macroplanning and microplanning, logistics planning, social and behavior change communication (SBCC) planning, process evaluations, continuous distribution planning, insecticide-treated net (ITN) strategy development, and other assistance to ensure high-quality implementation of mass campaigns in Malawi, and to ensure that ITNs are delivered in sufficient quantities to the appropriate target groups in a timely manner.

**Status:** VectorWorks provided financial, logistics, and technical support to Mr. Yves Cyaka, an AMP consultant, to support Malawi in their 2018 ITN mass campaign planning. He arrived in Malawi on November 5 and stayed through November 20, 2017. Mr. Cyaka supported the NMCP in revising the ITN mass campaign strategy, roadmap, and budget. He presented the situation report on two weekly AMP partners' calls on November 8 and November 15, 2017. Mr. Cyaka submitted a trip report to the President's Malaria Initiative (PMI) mission and the NMCP on December 6, 2017, and revised tools—including the final implementation plan—on December 18, 2017.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 2: 2016 Campaign AMP Situation Reports. Completed in Year 4: 2018 Campaign AMP Situation Reports.				

# MOZAMBIQUE

## MZ.1 Technical Assistance for ITN Strategy Update

[Completed in Year One.]

## MZ.2 ITN Durability Monitoring (Tropical Health)

**Brief activity description:** VectorWorks is conducting durability monitoring of ITNs in three sites across Mozambique with its primary monitoring and evaluation partner, Tropical Health, and the Instituto Nacional de Saúde (INS). VectorWorks selected the three monitoring sites (Inhambane, Nampula, and Tete) to maximize potential differences in environment and in ITN use practices.

**Status:** In November 2015, VectorWorks completed the first part of the durability monitoring in all three sites: six months after the ITN distribution in Tete Province and one month after the ITN distributions in Inhambane and Nampula provinces. We conducted the second wave of durability monitoring, one year after distribution: in Tete in June 2016 and in Inhambane and Nampula in August 2016. We conducted the third wave of durability monitoring in May 2017 (Tete) and August 2017 (Inhambane and Nampula).

VectorWorks submitted the 24-month durability monitoring report to the U.S. President’s Malaria Initiative (PMI) for approval on January 5, 2018, and PMI approved the report on March 6, 2018.

VectorWorks will start data collection for the 36-month durability monitoring in Tete in Quarter Three of Year Four.

Deliverable	Audience	Timing	Dissemination Plan	Status
Completed in Year 1: MZ.2.1 durability monitoring protocol and research tools; MZ.2.2 schedule of fieldwork Completed in Year 2: MZ.2.3 schedule of fieldwork; MZ.2.4 Template for baseline report Completed in Year 3: MZ.2.5 schedule of fieldwork; MZ.2.6 Baseline survey report; MZ.2.7 12-month survey report.				
8. 24-month durability monitoring report	PMI, NMCP, INS	Quarter 1	E-mail to PMI, NMCP, INS	Approved by PMI: March 6, 2018
9. Trip report for 36-month data collection	PMI, NMCP	Quarter 3	E-mail to PMI	On schedule

## MZ.3 Data Dissemination and Translation

[Completed in Year Two.]

## MZ.4 Mass Campaign Technical Assistance

[Completed in Year Two.]

## MZ.5 Mass and Continuous Distribution Capacity Building

[Completed in Year Two.]

## MZ.6 Nampula Process Evaluation

[Completed in Year Three.]

## MZ.7 School-Based ITN Distribution Pilot

### MZ.7.A School-Based ITN Distribution Feasibility Assessment

**Brief activity description:** VectorWorks is working with the NMCP, PMI, and other partners to implement a school-based ITN distribution pilot in Zambezia Province. To ensure that the pilot is successful, VectorWorks conducted a feasibility assessment with the NMCP and GHSC-PSM.

**Status:** In Year Three, VectorWorks shared the feasibility assessment guides with the NMCP, PMI, and other partners. Implementation of the feasibility assessment was moved to a later date to accommodate full approval of the pilot from the Ministry of Health and the NMCP. VectorWorks conducted the feasibility assessment with the NMCP and GHSC-PSM in early November 2017.

Before the assessment, VectorWorks conducted a key stakeholders meeting to introduce both the pilot distribution and the feasibility assessment. After the stakeholders meeting, VectorWorks and partners conducted the feasibility assessment in the implementation district (Namarroi) as well as a dissimilar district (Gurúè), to ensure a more representative understanding of the province. A Microsoft PowerPoint presentation of preliminary initial findings from the feasibility assessment was presented to PMI and the NMCP after the assessment was completed and was then submitted via email on November 10, 2017. VectorWorks submitted a trip report to PMI on November 17, 2017. The field assessment report, submitted on December 11, 2018, was approved by PMI on March 6, 2018. VectorWorks also submitted draft implementation guidelines to PMI on December 19, 2017. Final draft implementation guidelines will be formally submitted for approval in Quarter Three of Year Four and will include revisions made during planning and implementation of the first round of distribution.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. PowerPoint presentation of preliminary findings and draft implementation guidelines	PMI, NMCP, INS, Global Fund	Quarter 4, Year 3	In-person presentation, E-mail to PMI and implementing partners	Submitted to PMI: November 10, 2017 (preliminary findings), December 19, 2017 (draft implementation guidelines)
2. Trip report	PMI	Quarter 4, Year 3	E-mail to PMI	Submitted to PMI: November 17, 2017

Deliverable	Audience	Timing	Dissemination Plan	Status
3. Field assessment report	PMI, NMCP, INS, Global Fund, implementing partners	Quarter 4, Year 3	E-mail to PMI and implementing partners	Approved by PMI: March 6, 2018

**MZ.7.B School-Based ITN Distribution Evaluation (Tropical Health)**

**Brief activity description:** PMI, the Mozambique NMCP, and the implementing partners aim to implement school-based ITN distribution in the Namarroi district of Zambezia Province in May 2018. To measure the outcomes from the school-based ITN distribution, VectorWorks and INS conducted a baseline survey and will conduct an endline survey in both the pilot district (Namarroi) and a control district (Mulevala).

**Status:** VectorWorks developed the survey protocol in close coordination with the NMCP and PMI and submitted it for approval in Quarter Four of Year Three. The survey received approval from the National Institute of Health of Mozambique IRB on October 12, 2017, and exemption status from the Johns Hopkins Bloomberg School of Public Health IRB on October 20, 2017.

VectorWorks conducted the baseline survey between November 28, 2017, and December 19, 2017. Preliminary findings, in the form of a tables instead of a PowerPoint presentation, were sent to PMI and INS on December 18, 2017.

VectorWorks sent an email to partners on December 15, 2017, with a request to suspend all activities due to a delay in receiving fiscal year 2017 activity funds. This suspension of activities caused a delay in writing the trip report and baseline survey report. VectorWorks Mozambique activities restarted on February 3, 2018.

We are currently developing the final report for the baseline survey, which will be submitted in April 2018 along with a finalized timeline for evaluation activities, a trip report, and other tools.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Activity timeline	PMI, NMCP, INS, and implementing partners	Quarter 4, Year 3	E-mail to PMI, NMCP, INS, and implementing partners	Submitted on December 12, 2017
2. Study protocol	PMI, NMCP, INS, and implementing partners	Quarter 4, Year 3	E-mail to PMI, NMCP, INS, and implementing partners	Submitted on September 8, 2017

Deliverable	Audience	Timing	Dissemination Plan	Status
3. Training materials for data collection team	PMI, NMCP, INS, and implementing partners	Quarter 4, Year 3	E-mail to PMI, NMCP, INS, and implementing partners	Submitted on December 4, 2017
4. Post-baseline implementation debrief PowerPoint presentation	PMI, NMCP	Quarter 1	E-mail to PMI, NMCP, INS, Implementing Partners	Submitted to PMI: December 18, 2017
5. Trip report—Baseline	PMI, NMCP	Quarter 1	E-mail to PMI, NMCP, INS, Implementing Partners	Delayed to Quarter 3
6. Baseline Assessment Report	PMI, NMCP, implementing partners	Quarter 2	E-mail to PMI, NMCP, INS, Implementing Partners	Delayed to Quarter 3

### MZ.7.C School-Based ITN Distribution Technical Assistance

**Brief activity description:** VectorWorks has planned, implemented, evaluated, and provided technical support for school-based ITN distributions in numerous countries. VectorWorks will provide technical assistance to the NMCP, PSI, Communication for Improved Health Outcomes (CIHO) and the Mozambique Integrated Malaria Program (IMaP) for the planning and implementation of a school-based ITN distribution pilot in Mozambique.

**Status:** VectorWorks continues to provide technical support for the planning and implementation of Mozambique’s school-based ITN distribution pilot. VectorWorks disseminated various iterations of a project timeline, starting with the first iteration in July 23, 2017. The most recent timeline was disseminated on February 27, 2018.

VectorWorks is also helping the NMCP and PMI coordinate the numerous implementing partners for this school-based ITN distribution pilot. VectorWorks has provided resources and references to partners for developing planning and implementation tools and has worked with the NMCP and partners to finalize distribution, reporting, and supervision tools. VectorWorks is also working with the NMCP and GHSC-PSM to plan for and implement microplanning and training of trainers.

A trip report for the most recent technical support trip, which was completed at the end of Quarter Two, will be submitted in Quarter Three.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. Project timeline	PMI, NMCP, INS, implementing partners	Quarter 1	E-mail to PMI, NMCP, INS, Implementing Partners	Submitted to PMI: February 27, 2018
2. Monitoring Visit Report	PMI	Quarter 1	E-mail to PMI, NMCP, INS, Implementing Partners	Delayed to Quarter 3

**MZ.PM.1 Year One Work Plan and Reporting**

[Completed in Year One.]

**MZ.PM.3 Year Two Work Plan and Reporting**

[Completed in Year Two.]

**MZ.PM.3 Year Three Work Plan and Reporting**

[Completed in Year Three.]

**MZ.PM.4 Work Plan and Reporting**

**Brief activity description:** VectorWorks bases its activities on PMI-approved work plans and adheres to reporting guidelines within the work plans.

**Status:** PMI approved the VectorWorks Mozambique Year Four work plan on September 28, 2017, and the Year Three annual report on January 24, 2018. VectorWorks continues to deliver quarterly financial reports to PMI for Year Four.

Deliverable	Audience	Timing	Dissemination Plan	Status
Year 4 annual work plan	PMI	Quarter 1	E-mail to PMI	Approved by PMI: September 28, 2017
Year 3 annual report	PMI	Quarter 1	E-mail to PMI	Approved by PMI: January 24, 2018
Quarterly financial reports	PMI	Quarters 1–4	E-mail to PMI	On schedule

# MYANMAR

## MM.1 ITN Durability Monitoring

**Brief activity description:** VectorWorks oversees durability monitoring for two brands of ITNs at one site in Myanmar. This provides the NMCP, RBM partners, and PMI with information on performance and the estimated “useful life” of ITNs that were distributed during the 2015 mass campaign. This also strengthens the in-country capacity to undertake future durability monitoring. Based on campaign distribution timing, high malaria-transmission potential, and logistic accessibility, NMCP and PMI selected Tamu Township in Sagaing Region as the site for durability monitoring. The Myanmar NMCP organized mass distribution of ITNs in November and December 2015; the ITNs distributed were evenly split between two brands: DawaPlus 2.0 and PermaNet 2.0. The primary objectives of the ITN durability monitoring are as follows:

- To monitor the physical durability of the two brands of ITNs and estimate the median ITN survival during a three-year period.
- To monitor insecticidal activity of the two ITN brands using bioassays and chemical testing.
- To strengthen the capacity of NMCP and in-country partners to independently conduct future durability monitoring in the future.
- To assess major behavioral aspects of net care and repair and their impact on physical durability.

**Status:** PSI Myanmar conducted 24-month fieldwork in Tamu Township in Sagaing between December 1, 2017, and December 16, 2017. Data collectors interviewed 286 households of the 290 households in the original cohort, and they inspected 493 ITNs from the 582 at baseline. Overall attrition increased to 27.8% from 21.9% at the 12-month follow up; most of the attrition was due to nets being given away. Cohort households showed 89.6% of surviving nets still in serviceable condition, indicating a projected median life span of greater than three years. PSI Myanmar collected 60 nets (30 from each study site) and sent them to NMCP for bioassay testing. Bioassay results at 24 months indicated that 40% of PermaNet 2.0 and 13.3% of DawaPlus 2.0 met optimal effectiveness criteria. The NMCP insectary found that 100% of PermaNet 2.0 achieved the minimum effectiveness threshold compared to 83.3% for DawaPlus 2.0. Both net brands demonstrated reduced insecticidal effectiveness at 24 months compared to the previous round of data collection.

PSI Myanmar submitted a preliminary draft of the 24-month durability monitoring follow-up report on March 29, 2018. VectorWorks will review it internally and submit to PMI during the next reporting period.

Deliverable	Audience	Timing	Dissemination Plan	Status
MM.1.8 24-month assessment fieldwork	PMI, NMCP, and PSI Myanmar	Quarter 1	Audience members took part in or witnessed fieldwork	On Schedule
MM.1.9 24-month assessment report	PMI, NMCP, PSI Myanmar	Quarter 2	Share with PMI via email	Delayed to Quarter 3

## MM.2 Data Analysis and Dissemination Workshop

[Completed in Year Three.]

## MM.3 ASTMH Attendance 2016

[Cancelled in Year Three per Modification 1 which was approved on June 30, 2017.]

## MM.4 ASTMH Attendance 2017

**Brief activity description:** The deputy director of malaria programs at PSI Myanmar, Dr. Phone Si Hein, attended the American Society of Tropical Medicine and Hygiene (ASTMH) Annual Meeting from November 5 to November 9, 2017, in Baltimore, Maryland.

**Status:** Dr. Hein traveled to Baltimore and attended the ASTMH Annual Meeting, including the durability monitoring lunch. He met the principal investigators of the studies, as well as implementers of other durability monitoring studies from around the world. VectorWorks submitted his trip report to PMI Myanmar in January 2018.

Deliverable	Audience	Timing	Dissemination Plan	Status
MM.4.1 ASTMH trip report	PMI	Quarter 1	Shared via email with PMI	Approved by PMI: January 29, 2018

## MM.5 Chemical Testing

**Brief activity description:** PSI Myanmar durability monitoring field workers collected ITNs during 24- month durability monitoring follow-up. Samples from these nets will be tested for chemical residue at the Food and Drug Administration (FDA) lab in Nay Pyi Taw. This activity will provide PMI and NMCP with additional data to evaluate the performance of LLINs that were distributed during the 2015 mass campaign.

**Status:** FDA lab costs for chemical testing were significantly more expensive than anticipated during work plan development. VectorWorks is consulting with PMI and PSI Myanmar on the best way to proceed, ensuring that as much valuable data as possible are collected while remaining within the Year Four VectorWorks budget. The FDA lab will conduct chemical testing when the funding situation is clear and results will be shared with PMI when they are available.

## MM.6 Durability Monitoring Dissemination Workshop

**Brief activity description:** VectorWorks will organize a dissemination workshop to share results from the December 2017 durability monitoring data collection. PSI Myanmar will present results to stakeholders, including PMI, NMCP, and the Ministry of Health and Sports, on physical integrity, bioassay results, and chemical tests. The workshop will be organized similar to the 2017 workshop, which was viewed as a success among stakeholders.

**Status:** VectorWorks will wait until chemical test results are available before conducting the workshop. PSI Myanmar will work with the FDA lab to organize chemical tests in Quarter Three. Once a date is confirmed, VectorWorks will secure the workshop venue. The project will coordinate dates with PMI, NMCP, and implementing partners to ensure stakeholders are available for the workshop.

Deliverable	Audience	Timing	Dissemination Plan	Status
MM.6.1 Dissemination Workshop Agenda and Report	PMI	Quarter 3	Share via email with PMI	Delayed to Quarter 4

### MM.PM.3 Work Plan and Reporting

**Brief activity description:** VectorWorks provides PMI with an annual work plan, quarterly financial reports, and semiannual progress reports for approval. VectorWorks understands that USAID may request information, as needed, for the PMI annual report, such as strategic planning, VIP visits, and congressional reports.

**Status:** VectorWorks submitted its Year Four work plan to PMI for review on September 19, 2017, and PMI approved it on September 26, 2017. All quarterly financial reports are up to date; VectorWorks provided them to PMI through Year Four Quarter Two.

Deliverable	Audience	Timing	Dissemination Plan	Status
Work plan	PMI	Quarter 1	Send by email to PMI	Approved by PMI: September 26, 2017
Quarterly financial reports	PMI	Quarter 1 to Quarter 4	Send by email to PMI	On Schedule
Semiannual progress reports	PMI	Quarter 2 and Quarter 4	Send by email to PMI	Herein

# NIGERIA

## NG.1 ITN Durability Monitoring

**Brief activity description:** VectorWorks is supporting durability monitoring of DawaPlus 2.0 insecticide-treated nets (ITNs) in three sites across Nigeria—Zamfara, Oyo, and Ebonyi states—in collaboration with its primary monitoring and evaluation partner, Tropical Health, and the National Malaria Elimination Program (NMEP). Sites were selected to maximize the potential differences in the environment and ITN use practices and to build on previous durability studies. The primary objectives of ITN durability monitoring are to:

- Monitor the physical durability of DawaPlus 2.0 ITNs and estimate the median ITN survival during a three-year period
- Monitor the insecticidal activity of ITNs using bioassays
- Strengthen the capacity of the National Malaria Control Program and in-country partners to independently conduct future durability monitoring in the future
- Assess major behavioral aspects of net care and repair and their impact on physical durability

**Status:** Tropical Health oversaw the most recent round of ITN durability monitoring follow-up between September 23, 2017 and October 17, 2017. VectorWorks now has data from Ebonyi and Zamfara states through 24 months and from Oyo State through 12 months. Data collectors interviewed 92.3% of active households in Ebonyi, 100% in Zamfara, and 83.7% in Oyo State. Households in Oyo had higher attrition at 12 months than the other states at that time period. Increased attrition in Oyo State is primarily due to more nets being given away. Tropical Health reports attrition rates in Ebonyi and Zamfara at 38% and 14%, respectively, after 24 months of follow-up. The latest estimates for medial survival rate are 5.6 years in Zamfara, 3.3 years in Ebonyi, and 2.7 years in Oyo State.

The Nigerian Institute of Medical Research conducted bioassays following data collection in 2017. Results show that 100% of nets achieved optimal effectiveness across all three sites. Bioassays conducted after 12 months in Zamfara and Ebonyi showed significantly worse outcomes. The U.S. President’s Malaria Initiative (PMI) and NMEP have requested that VectorWorks consider conducting additional bioassays to verify the most recent bioassay results. Tropical Health is looking into other labs within and outside Nigeria. VectorWorks will share updates and results with PMI when they are available.

Deliverable	Audience	Timing	Dissemination Plan	Status
NG.1.3 24-month report (12-month report in Oyo State)	PMI, NMCP, and implementing partners	Quarter 2	Share via email with PMI	Approved by PMI: March 6, 2018

## NG.2 Data Analysis and Dissemination Workshop

[Completed in Year Three.]

## NG.3 Data Processing Workshop

[Completed in Year Three.]

## NG.4 Data Analysis Workshop (Year Four)

**Brief activity description:** VectorWorks will facilitate a data analysis workshop prior to the last round of ITN durability monitoring data collection. Dr. Albert Kilian from Tropical Health will lead the workshop, which will focus on methods of analysis, preparation of data, and writing of succinct reports. This activity aims to increase the capacity of NMCP to conduct durability monitoring independently in the future, including data analysis.

**Status:** This activity is will happen prior to the last round of data collection, which is scheduled to begin in September 2018.

Deliverable	Audience	Timing	Dissemination Plan	Status
NG.4.1 Data analysis workshop agenda and report	PMI, NMCP, and implementing partners	Quarter 4	Share via email with PMI	On Schedule

## NG.5 Dissemination Workshop (Year Five)

**Brief activity description:** VectorWorks will complete ITN durability monitoring in October 2018. After data are collected and analyzed, VectorWorks will organize a workshop to disseminate results. Dr. Kilian or Mr. Emmanuel Obi of Tropical Health will present and interpret results from the activity. NMCP, state malaria programs, and other malaria partners in Nigeria will be invited.

**Status:** VectorWorks will organize this activity in Year Five of the project after data collection has concluded. Data collectors are scheduled to resume follow-up in September 2018. VectorWorks will share the final report by January 2019. Organizers will then set a date for the dissemination workshop.

Deliverable	Audience	Timing	Dissemination Plan	Status
NG.5.1 Dissemination workshop agenda and trip report	PMI, NMCP, and implementing partners	Year 5 Quarter 2	Share via email with PMI	On Schedule

## NG.6 Additional Chemical Testing

**Brief activity description:** Bioassay results from 12-month durability monitoring data collection indicated suboptimal insecticide effectiveness. PMI requested that further chemical testing be done to assess the insecticidal content of the nets collected for bioassay at 12 months.

**Status:** Tropical Health facilitated chemical testing at the Walloon Agricultural Research Center in Gembloux, Belgium. The Walloon Agricultural Research Center received the samples on November 24, 2017, and completed the tests on February 26, 2017. VectorWorks will include the results in the next report.

Deliverable	Audience	Timing	Dissemination Plan	Status
NG.6.1 Chemical testing reports	PMI, NMCP, and implementing partners	Year 5 Quarter 1	Share via email with PMI	On Schedule

## NG.7 Support to PMI Planning

**Brief activity description:** Mr. Obi will provide support to planning requests from PMI in Year Four and Year Five. PMI asked Mr. Obi to travel and provide input during Year Three; this activity was developed in anticipation of similar requests during the remainder of the project.

**Status:** PMI has not requested the support of Mr. Obi yet. No known trips for technical assistance are scheduled.

Deliverable	Audience	Timing	Dissemination Plan	Status
NG.7.1 Trip reports	PMI, NMCP, and implementing partners	Quarter 1-4	Share via email with PMI	On Schedule

## NG.PM.1 Work Plan and Reporting

**Brief activity description:** VectorWorks will provide an annual work plan for PMI Nigeria to approve, and quarterly financial and semiannual progress reports. VectorWorks understands that they may be asked to provide information, as needed, by USAID for the PMI annual report, strategic planning, VIP visits, congressional reports, among other activities.

**Status:** PMI approved the VectorWorks Year Four work plan on September 28, 2017. VectorWorks has submitted quarterly financial reports through Quarter Four. This document serves as the Year Four semiannual report.

Deliverable	Audience	Timing	Dissemination Plan	Status
Work plan	PMI	Year 4 Quarter 1	Share via email with PMI	Approved by PMI: September 28, 2017
Quarterly financial reports	PMI	Quarterly	Share via email with PMI	On Schedule
Semiannual reports	PMI	Quarter 2 and Quarter 4	Share via email with PMI	Herein
Trip reports	PMI	Within two weeks of travel	Share via email with PMI	None submitted in Year 4

# TANZANIA

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## Summary of Year Four Activities

In the first half of Year Four, VectorWorks continued to support the government of Tanzania's shift from ITN mass distribution campaigns to continuous distribution. At the start of Year Four, VectorWorks completed the fifth round of the School Net Program (SNP5), distributing more than 2 million ITNs through primary schools. VectorWorks has begun planning and coordinating at the national and subnational level for SNP6. In addition to SNP, VectorWorks supported the distribution of ITNs through health facilities in mainland Tanzania and Zanzibar. VectorWorks supported the smart push (the initial delivery of ITNs to health facilities in a region) of over 1.5 million ITNs to 17 regions supported by PMI and the Global Fund. VectorWorks has supported the distribution of ITNs to all 26 regions, and Zanzibar is preparing to launch ITN distribution in communities and health facilities with support from VectorWorks. In conjunction with these distributions, VectorWorks also supported SBCC to encourage proper net use.

VectorWorks also continues to conduct operational research on vector control. In Zanzibar, VectorWorks completed entomology data collection for the residual transmission study and completed data analysis for the human component part of the study. In the first half of Year Four, VectorWorks collected data for a Lot Quality Assurance Sampling (LQAS) pilot in Lindi, Mtwara, and Ruvuma regions to potentially provide a suitable alternative to monitoring net access in years when there is no MIS.

## Policy (PC)

### PC.1 Advocacy, Engagement, and Macroplanning with All Stakeholders

[Completed in Year One.]

### PC.2 Technical Coordination Meetings for Malaria Vector Control

**Brief activity description:** The VectorWorks Project is engaged in coordination and technical working groups in order to share field implementation experiences, network with other implementing partners, donors, and the government of Tanzania, and align itself with the rest of malaria control stakeholder's agenda in Tanzania.

**Status:** VectorWorks staff attended various malaria coordination and technical meetings. Under the leadership of the NMCP, VectorWorks was heavily engaged with coordination meetings targeted at planning for scale-up of distribution in health facilities (called the *Chandarua Kliniki* program) from 9 regions initially to all 26 regions in Tanzania. During these meetings, VectorWorks shared best experiences since the inception of the program in Mtwara and Mwanza regions in mid-2016 related to receiving, storing, and distributing ITNs through health facilities. VectorWorks was engaged in quantification exercises for discussion with Medical Stores Department (MSD) to manage the logistics as the program was expanding rapidly.

Matt Lynch traveled to Tanzania to participate in the Tanzania Vector Control Expert Consultation Workshop held February 26-27, 2018. The workshop was initiated to address concerns as to whether the current emphasis on ITNs as a control measure was appropriate or should be reconsidered in favor of scaling up

other tools. The workshop considered the current evidence and the Government of Tanzania definitively endorsed the current strategy, with a recommendation to increase the use of local surveillance data in decision-making.

VectorWorks engaged with NMCP to prepare for the consultative malaria operations plan meetings and presented the accountability information system (*Chandarua Kliniki* dashboard) to participants at the meeting. VectorWorks also participated in coordination meetings to plan and commemorate World Malaria Day, and in Quarter Three of Year Five, VectorWorks will showcase the *Chandarua Kliniki* program and the accountability information system dashboard in a national event that will attract media attention.

VectorWorks participated in the Communication Technical Working Group of the NMCP to discuss its SBCC plans for Year Four and link with other SBCC projects to avoid duplication of efforts.

Deliverables	Audience	Timing	Dissemination Plan	Status
Presentations given by VectorWorks	NMCP, PMI	Quarters 1–4	Share by mail	Ongoing

### PC.3 Development of Comprehensive ITN Strategy

[Completed in Year Two.]

### PC.4 Finalize the ITN Strategy and Work Plan for Tanzania

[Completed in Year Three.]

## Monitoring and Evaluation (ME)

### ME.1.1 Internal Project Monitoring

[Completed in Year One.]

### ME.1.2 Documentation and Dissemination

[Completed in Year Three.]

### ME.1.3 Internal Project Monitoring

[Completed in Year Three.]

### ME.1.4 Internal Project Monitoring

**Brief activity description:** In Year Four, VectorWorks Tanzania updated the existing performance monitoring plan with the targets for Year Four; the VectorWorks monitoring manager and regional managers continue to monitor the implementation of project activities. The monitoring manager helps monitor activities based on the approved indicators and uploads relevant data to PMI Tanzania Monitoring and Evaluation Management System (TMEMS) database quarterly.

**Status:** The updated performance monitoring plan is included in this report. In Year Four, VectorWorks distributed 775,810 ITNs purchased with U.S. government funds through health facilities. Additionally, VectorWorks distributed 1,155,640 ITNs purchased by the Global Fund through health facilities and 2,094,470 ITNs through schools. VectorWorks will continue to monitor progress throughout the year, and will resubmit the performance monitoring plan with the annual report in Year Five, Quarter One.

Deliverables	Audience	Timing	Dissemination Plan	Status
Updated performance monitoring plan	PMI	Quarter 3	Share by email	In process

## ME.2 Documentation and Dissemination of SNP3

[Completed in Year Two.]

### ME 3.1 Process Monitoring of SNP3

[Completed in Year Two.]

### ME.3.2 Process Monitoring of SNP4

[Completed in Year Three.]

## ME.4 Accountability Information System for ANC-EPI Distribution and SNP

**Brief activity description:** In Quarter Four of Year Three, VectorWorks and the University of Dar es Salaam trained regional health management teams (RHMTs) and community health management teams (CHMTs) in Mwanza and Mtwara to use the accountability information system (*Chandarua Kliniki* dashboard). After three months of implementation, VectorWorks together with University of Dar es Salaam Health Information System Programme and the regional teams conducted an evaluation of the *Chandarua Kliniki* dashboard in Mtwara Region. The main objective of the evaluation was to assess the practicality, ease, and frequency of using the *Chandarua Kliniki* dashboard by the region and district health council personnel. VectorWorks used a semi-structured survey to conduct interviews in the nine districts of Mtwara Region. Interviewees included district medical officers, district HMIS focal people, and district malaria focal people.

**Status:** Every month the district and regional malaria focal people for the two regions (Mtwara and Mwanza) log into the *Chandarua Kliniki* dashboard to assess ITN issuing performance trends for their particular district and to print a monthly accountability report. They share the report with the CHMTs to make informed decisions and then file the accountability report at the district level.

In regions where VectorWorks has not scaled up the *Chandarua Kliniki* dashboard, VectorWorks regional managers on a monthly basis aggregate ITN trend analysis graphs of the number of antenatal care (ANC) first visits and measles-rubella-vaccinated children against the number of ITNs issued. VectorWorks share these data with the RHMTs and CHMTs to inform them of ITN issuing trends and performance.

During VectorWorks' evaluation of the *Chandarua Kliniki* dashboard, VectorWorks discovered that several aspects of the dashboard and its associated activities have improved the process of managing ITN distribution

in the region visited. In the next months, VectorWorks will roll out the *Chandarua Kliniki* dashboard in the remaining 24 regions so as to ensure proper accountability of ITNs in the country.

Deliverables	Audience	Timing	Dissemination Plan	Status
Trend analysis	NMCP, PMI	Quarters 1–4	Share by email	Ongoing
Evaluation report	NMCP, PMI	Quarter 1	Share by email	Delayed

### ME.5 Support Research Agenda for Outdoor Mosquito Biting in Zanzibar

[Canceled in Year Two.]

### ME.6 Monitoring Project Engagement Across Age and Gender

[Completed in Year Three.]

### ME.7 Care and Repair Qualitative Study

[Completed in Year Three.]

### ME.8 Zanzibar Continuous Distribution Process Evaluation

[Completed in Year Three.]

### ME.9 Accountability Information System (AIS) for Zanzibar

**Brief activity description:** In Year Four, VectorWorks began working with the University of Dar es Salaam and the HMIS to develop an accountability information system for Zanzibar (like the *Chandarua Kliniki* dashboard) for ITN distribution in health facilities and communities. The purpose of the dashboard is to monitor and account for every ITN distributed through both channels. The dashboard resides on the District Health Information System 2 (DHIS2) platform and triangulates between the numbers of coupons redeemed or clients seen (children getting their first measles vaccination and pregnant women at their first ANC visits) and the number of ITNs distributed in the health facility or community.

**Status:** VectorWorks and the University of Dar es Salaam used the lessons learned on the *Chandarua Kliniki* dashboard to document the dashboard requirements, appropriate indicators and visuals selection, and architecture design for the Zanzibar dashboard, which is currently under development. The development will include the interface between the ordering component captured by the electronic Logistics Management Information System (eLMIS) and the client’s service data captured on DHIS2. We expect the dashboard to go live in June 2018. Although the Zanzibar dashboard is not yet live, VectorWorks is conducting manual comparison analysis of ITNs distributed and clients served.

Deliverables	Audience	Timing	Dissemination Plan	Status
Quarterly accountability reports	NMCP, PMI	Quarters 1–4	Share by email	In process

## ME.10 Zanzibar ITN Durability Monitoring

**Brief activity description:** VectorWorks is providing technical support to the Zanzibar Malaria Elimination Program (ZAMEP) in conducting durability monitoring in two sites in Zanzibar—Wete and North B—following the distribution of Olyset and PermaNet 2.0 ITNs during the 2016 mass distribution campaign. Per PMI guidelines, monitoring covered 15 clusters of 10 households each in both sites, providing approximately 828 ITNs at baseline and an estimated 668 ITNs at the 36-month follow-up. ZAMEP is leading the fieldwork, with Tropical Health providing technical oversight and training. Baseline data collection occurred in Wete on Pemba Island and North B on Unguja Island from October 17 to November 11, 2016, roughly three months after distribution; 834 ITNs were tagged. As expected, the two sites were very similar in household characteristics and in knowledge and attitudes about ITN use, care, and repair. Only about 25% of the cohort ITNs were hanging; the rest were still in the package. However, the hanging and use rate for other ITNs in the households was around 80% at both sites, suggesting that families preferred to first continue using the ITNs they had, and that were already in place, before switching to the new ones. Attrition was low; 7% of ITNs were no longer in households; of these, 85% had been given to others to use and only 0.1% were lost due to wear and tear (others reason for loss could not be determined). Of the 834 ITNs tagged, 96% were in good condition and 99.2% were “serviceable” at baseline.

**Status:** VectorWorks conducted data analysis for the 12-month report and submitted the report to PMI on October 30, 2017. PMI approved the report on November 28, 2018. Follow-up of the durability monitoring cohort in Unguja and Pemba was successful and the results for the physical durability are within the expected range in Unguja (PermaNet 2.0), but slightly below the “three-year” standard in Pemba (Olyset). The difference was in a higher proportion of campaign nets in Pemba lost to wear and tear. However, at this point it cannot be determined whether this was due to poorer performance of the textile fabric or a higher inclination of households in Pemba to use the nets for other purposes. In Year Four, VectorWorks will conduct data collection at 24 months and will submit the 24-month report to PMI early in Year Five.

Deliverables	Audience	Timing	Dissemination Plan	Status
Completed in Year Three: ME.10.1 Baseline report				
2. 12-month report	PMI, ZAMEP	Quarter 1	Share by email	Complete
3. 24-month report	PMI, ZAMEP	Quarter 1, Year 5	Share by email	Not started

Deliverables	Audience	Timing	Dissemination Plan	Status
4. Final (36-month) report	PMI, ZAMEP	Quarter 4, Year 5	Share by email	Not started

## ME.11 Monitoring ITN Distribution and Issuing at Health Facilities

**Brief activity description:** The VectorWorks regional manager for Kigoma conducted spot checks to selected households to verify and ascertain beneficiaries recorded in DHIS books with actual recipients in the community. These monitoring initiatives provided key issues for attention, such as reporting errors, no requests submission for restocking, poor recording in the different sources of data at health facilities, and data entry errors by DHIS focal persons at the district level. Through subsequent supportive visits to health facilities, data quality is improving. The regional review meeting in Mwanza and Mtwara, field visits, and data quality assessments in Year Three have all emphasized the importance of intensive monitoring using field visits and online tracking systems.

**Status:** VectorWorks developed routine performance trend reports and shares data with Tanzania government authorities on ITN distribution and issuing trends for their information and action. VectorWorks facilitates district teams to conduct monthly follow-up field visits to facilities with specific issues, following the trend reports. Currently, VectorWorks is finalizing a real-time online supervision tool to record monthly site team visits and findings from the field. VectorWorks conducts field-level monthly supportive and follow-up visits to all facilities based on analyzed reports generated by the accountability information system (*Chandarua Kliniki* dashboard), which identifies all facilities with issues requiring verification, with the red-flagged facilities being the top priorities.

Beginning in April 2018, VectorWorks will conduct refresher trainings to selected RHMTs and CHMTs in the regions of Katavi, Morogoro, Pwani, Shinyanga, and Tabora. These teams will conduct intensive supportive supervision visits to the health facilities in the five regions. In the past, Global Fund supported the trainings in these regions but now PMI will be the support.

Deliverables	Audience	Timing	Dissemination Plan	Status
1. Annual supervision plan	NMCP, PMI	Quarter 1	Share by email	Delayed to Quarter 3
2. Report on semiannual meetings compiled for all regions	PMI, NMCP	Quarter 3	Share by email	On schedule

## ME.12 Zanzibar Residual Malaria Transmission Study Fieldwork

**Brief activity description:** VectorWorks is working with ZAMEP to design and implement a research study to better understand the magnitude and drivers of residual malaria transmission on Zanzibar. The study spans two transmission seasons and includes data collection in six administrative units (*shehias*), selected based on high malaria incidence and receipt of indoor residual spraying in 2016. The study includes an entomology component and a human-behavioral component. In Year Three, VectorWorks completed the study design, received all necessary institutional review approvals, completed human behavioral data collection, and began entomology data collection. In Year Four VectorWorks is completing the remaining entomological fieldwork, carrying out analysis of entomological and human behavioral data, and will write-up results for publication. We expect to disseminate findings to national and international stakeholders at the end of Year Four or early in Year Five.

**Status:** In the first two quarters of Year Four, VectorWorks completed entomology data collection. This included eight total rounds of mosquito collection across the six study sites. During this time, VectorWorks also carried out data analysis for the human behavioral component of the study, including qualitative analysis of in-depth interviews and semi-structured community observations, as well as quantitative analysis for structured household observations and survey data.

VectorWorks is planning a data analysis workshop for the beginning of Quarter Three, which will bring together VectorWorks and ZAMEP. The workshop will take place in Bagamoyo, Tanzania, and will include hands-on skills-building sessions related to entomology, human behavior, and human-vector interaction analysis, presentations, and discussions on study results to date, development of a clear timeline and next steps for dissemination of study findings, and discussion around opportunities to expand and build upon the research findings. The workshop will take place in the beginning of Quarter Three, rather than Quarter Two as originally planned, because this timing will enable the largest number of workshop participants to attend based on their travel schedules. VectorWorks will disseminate results to key stakeholders in Tanzania through a dissemination workshop, planned for Quarter Four. VectorWorks will also disseminate results to the global malaria community through peer-reviewed publications and presentations at international conferences in the second half of Year Four and Year Five.

Deliverables	Audience	Timing	Dissemination Plan	Status
1. Publishable-quality human behavior manuscript	PMI, ZAMEP, global malaria community	Quarter 4	Share manuscript with PMI and ZAMEP via email and submit to a peer-reviewed journal	On schedule
2. Publishable-quality entomology manuscript	PMI, ZAMEP, global malaria community	Quarter 4	Share manuscript with PMI and ZAMEP via email and submit to a peer-reviewed journal	On schedule

Deliverables	Audience	Timing	Dissemination Plan	Status
3. Trip report highlighting key outcomes of data analysis workshop	PMI	Quarter 2	Share trip report with PMI via email	Delayed to Quarter 3
4. Trip report highlighting key outcomes of dissemination workshop	PMI and ZAMEP	Quarter 4	Share trip report with PMI and ZAMEP via email	On schedule

**ME.13 Tanzania Malaria Forum**

**Brief activity description:** VectorWorks was in the process of organizing the 2017 Tanzania Malaria Forum as part of World Malaria Day on April 25, 2017. The forum sought to bring together malaria stakeholders from academia, research, government, and other venues to deliberate on progress made, as well as challenges encountered in malaria control activities in Tanzania. VectorWorks was prepared to pursue coordination of the 2017 Malaria Forum through joint meetings; the NMCP was also engaged and provided support for the coordination team. However, because of the ongoing writing of funding requests to the Global Fund (2018–2020), the NMCP advised VectorWorks to postpone the Malaria Forum activity. Most of the senior officials of the NMCP were focused on the funding request-writing process, so their involvement in the forum would have been minimal.

**Status:** VectorWorks planned on canceling the activity, because it seemed the NMCP was not committed. In Year Four, the NMCP had conversations with VectorWorks about changing the format of the Malaria Forum, and VectorWorks will continue to work with the NMCP to conduct the forum in Year Four.

Deliverables	Audience	Timing	Dissemination Plan	Status
Report on event activities	PMI, JHU, NIMR (National Institute for Medical Research)	Year 3	Share by email	Delayed

**ME.14 Technical Assistance to ZAMEP for Entomology Data Systems and Analysis**

**Brief activity description:** VectorWorks provided technical assistance and hands-on training to ZAMEP counterparts to learn to use a new data management system. VectorWorks and ZAMEP worked on the system for mosquito sorting and data entry for the residual malaria transmission study. We initiated tablet-based data collection to reduce the number of paper forms required for data collection. Using Microsoft Excel and R statistical package, VectorWorks provided training in basic data analysis skills to ZAMEP’s entomology unit from both Unguja and Pemba islands. VectorWorks also conducted a workshop, organized and co-facilitated by ZAMEP’s manager, and attended by members of ZAMEP from all units. During the workshop, facilitators provided refresher materials on how to write reports, proposals, and manuscripts—including how to use EndNote as a reference database, how to use Microsoft PowerPoint to prepare publishable figures in Excel and make them presentable, and how to produce posters for conference

presentations. Finally, VectorWorks presented simple approaches based on standard assumptions that can be used, based on existing malaria cases, to forecast the expected number of malaria cases in the coming years.

**Status:** VectorWorks submitted the report on December 16, 2017, and PMI approved it on March 5, 2018.

Deliverables	Audience	Timing	Dissemination Plan	Status
Report on technical assistance provided and key recommendations	PMI and ZAMEP	Quarter 1	Share by email	Approved March 3, 2018

## ME.15 Coordination and Support for VectorWorks Tanzania Research Agenda

[Completed in Year Three.]

## ME.16 Assessment of ITN Access and Ownership Among People Living with HIV/AIDS

**Brief activity description:** In addition to children and pregnant women, people living with HIV/AIDS (PLWHA) are biologically vulnerable to malaria. While the SNP and *Chandarua Kliniki* program target these first two vulnerable populations, we do not know how well continuous ITN distribution channels are serving PLWHA. To assess PLWHA's access to ITNs, VectorWorks reviewed data and is discussing access with stakeholders who work with PLWHA in Tanzania. If we find that PLWHA are underserved by current continuous distribution channels, we will propose alternatives to PMI for consideration. VectorWorks investigated the existing data sources to assess ITN ownership by PLWHA. The most recent data with HIV status are from the 2011–2012 Tanzania HIV/AIDS and MIS, which was conducted just after Tanzania's 2010–2011 universal coverage campaign. We found that households with PLWHA were more likely to have ITNs than households without PLWHA (94% vs. 91%), and they were more likely to have at least one ITN for every two people (59% versus 51%). Overall, about 8% of households included at least one PLWHA. Household size is a major variable to having enough ITNs, but we found that households with PLWHA were similar in size to households without PLWHA. In the future, it will be important to continue to monitor access to ITNs through continuous distribution for PLWHAs. VectorWorks staff talked to Dr. Rugola Mtandu, who works on HIV programs for the government of Tanzania. He said that no program specifically targets PLWHA for ITN distribution, so they may be an important population to target. VectorWorks will compile this information and submit it to PMI in the second half of Year Four.

**Status:** VectorWorks will meet with the National Council of People Living with HIV in Tanzania to get their input on stigma and malaria to incorporate into the report before submitting.

Deliverables	Audience	Timing	Dissemination Plan	Status
Report on access and ownership of ITNs among PLWHA	PMI and NMCP	Quarter 1	Share by email	In process

## ME.17 Assessment of ITN Ownership Under Continuous Distribution

**Brief activity description:** With the shift from repeated mass campaigns to an ITN distribution strategy that relies primarily on continuous distribution channels, the question arises—how do we best monitor this new approach? Continuous distribution must fine-tune yearly ITN needs to ensure coverage is kept up at target levels, and this requires that data is available to verify whether the anticipated levels of ITN coverage are being reached. VectorWorks designed the study using LQAS, training materials and questionnaire, and trained and conducted the data collection in Lindi, Mtwara, and Ruvuma regions.

**Status:** VectorWorks applied LQAS methodology on the ITN ownership coverage in the three regions in Tanzania. We conducted data collection three months after the implementation of the 2017 MIS and determined results of pass/fail at various levels of coverage from LQAS. We will compare these results to the MIS results once they become available.

Each region in the Southern Zone of Tanzania is defined as a “lot”, comprising Lindi, Mtwara, and Ruvuma. In each region, VectorWorks selected 19 clusters and in each cluster, using a list of households per cell obtained from the village leader, or listing done by interviewer, we selected one household at random using the Random Household Selection App. The indicator for ITN ownership coverage was at least 80% of people in the household have access to an ITN. At the regional level, we then determined ITN ownership coverage on a pass-fail basis.

VectorWorks conducted a one-day training for 12 data collectors. The 12 data collectors, along with supervisors from VectorWorks, interviewed 19 households sampled in each of the three regions. Both Lindi and Mtwara regions had at least 60% to 80% ITN ownership coverage, and Ruvuma Region had at least 40% to 60% ownership coverage. VectorWorks will compare these findings with the MIS findings to see if the LQAS is a suitable substitute for net ownership in years when the MIS is not conducted. We will then complete and submit a final report to PMI.

Deliverables	Audience	Timing	Dissemination Plan	Status
Protocols	PMI, JHU, NIMR	Quarter 1	Share by email	Delayed
Presentation of baseline findings	NIMR, NMCP, PMI, PO-RALG	Quarter 3	In-person presentation to NMCP, NIMR, PO-RALG and PMI; share presentation with NMCP and PMI by email	In process

## Implementation (IM)

### IM.1 Initial Meeting with SNP 1 and 2 Implementers on Lessons Learned, Best Practices, and Recommendations for Future Implementation

[Completed in Year One.]

### IM.2 NetCALC Modeling of ITN Coverage Estimates for SNP3

[Completed in Year One.]

### IM.3 Review and Printing of Standard Operating Procedures, Data Collection, Reporting, and Monitoring Forms

[Completed in Year One.]

### IM.4 ITN Quantification and Validation of Quantification Data

[Completed in Year One.]

### IM.5 Microplanning Meetings

[Completed in Year One.]

### IM.6 Trainings and Orientations

[Completed in Year One.]

### IM.7 Transportation and Storage of ITNs

[Completed in Year One.]

### IM.8 Supervision

[Completed in Year One.]

### IM.9 Assessment of Potential Continuous Distribution Channels for SNP Regions

[Canceled in Year One, Modification 2.]

### IM.10 Qualitative Analysis Workshop

[Completed in Year One.]

### IM.11 NetCALC Workshops for the 7 PMI Regions on Mainland Tanzania

[Completed in Year Three.]

### IM.12 Health Facility Distribution

**Brief activity description:** VectorWorks continued with the routine distribution of ITNs through ANC and EPI services. In Quarter One of Year Four, VectorWorks expanded implementation in five more regions: Katavi, Morogoro, Pwani, Shinyanga, and Tabora. PMI is managing ITN distribution in a total of 14 out of 26 regions in-country.

**Status:** VectorWorks worked closely with the Logistics Management Unit, MSD, and CHMTs to facilitate ITN ordering through eLMIS to ensure that health facilities order on time and receive their orders in a timely manner to prevent ITN stock-outs at health facilities. Between October 2017 and March 2018, VectorWorks distributed a total of 649,130 ITNs as resupplies to public health facilities in Mwanza, Mara, Kagera, Kigoma, Simiyu, Geita, Ruvuma, Lindi, and Mtwara regions. In addition, we supported the initial smart push distribution of ITNs and delivered 1,155,640 ITNs to 17 regions (5 PMI regions and 12 Global Fund regions). The 17 regions were Arusha, Dar es Salaam, Dodoma, Iringa, Katavi, Kilimanjaro, Manyara, Mbeya, Morogoro, Njombe, Pwani, Rukwa, Shinyanga, Singida, Songwe, Tabora, and Tanga. To date all 26 regions are issuing ITNs at the health facilities to the targeted population.

Simba Logistics, a private transporter who delivers the ITNs, provides VectorWorks with a physical book for each region for each distribution. Instead of sharing these physical distribution reports and proof of delivery with PMI and NMCP, VectorWorks will share the log-in information for Simba’s dashboard.

Deliverables	Audience	Timing	Dissemination Plan	Status
Distribution report	NMCP, PMI	Quarter 3	Share by email with NMCP and PMI	On schedule
Proof of delivery	NMCP, PMI	Quarters 1–4	Share by email with NMCP and PMI	Delayed to Quarter 3

### IM.13 School-Based Distribution

**Brief activity description:** VectorWorks is supporting the government of Tanzania to distribute ITNs through primary schools as one of the ITN continuous distribution channels. In Year Four VectorWorks will distribute more than 2.7 million ITNs in 14 target regions.

In Year Four, VectorWorks Project continued implementing SNP distribution. Much of these activities conducted in Quarter One (October to December 2017) were carried over from Year Three. VectorWorks contracted Simba Logistics to distribute ITNs through schools in 10 regions (Geita, Kagera, Katavi, Kigoma, Mara, Morogoro, Mwanza, Pwani, Shinyanga, and Simiyu), which received over 2 million ITNs issued to primary school students.

**Status:** VectorWorks has started planning and coordinating SNP6 implementation at the national and subnational levels. We have finalized preparations for feedback and planning meetings for SNP6 in the first four regions of Lindi, Morogoro, Mtwara, and Pwani whose ITNs will be arriving in mid-May 2018.

In the past six months, VectorWorks identified vendors to carry out different scopes of work for activities in Year Four. We hired a consultant to produce a demonstrational video that replaces class-based training for SNP, and we hired a service provider who will begin printing SNP booklets and materials for the first four regions. We also held a meeting to work with the central government to pilot a self-managed SNP. At this meeting, the deputy permanent secretary for Health (PO-RALG) advised us to work with regional authorities to plan and budget for activities to further our mission to implement SNP in other regions.

VectorWorks has worked to identify a region to manage their own SNP. The deputy permanent secretary of PO-RALG wants to tie this to the financial year to sync with budgeting. Potential self-managed regions include Lindi, Shinyanga, Simiyu, and Tabora.

Major challenges include the delay of ITNs deliveries in October 2018 (Year Five), which may delay completion of the final SNP implementation report.

Deliverables	Audience	Timing	Dissemination Plan	Status
1. Coordination and engagement meeting briefs	NMCP, PMI	Quarter 3	Share by email	On schedule

Deliverables	Audience	Timing	Dissemination Plan	Status
2. Final SNP6 implementation report	PMI, LLIN Task Force	Quarter 4	Share by email	Not started
3. Report on experience/lessons learned from a self-managed SNP region	NMCP, PMI	Quarter 4	Share by email	Not started

### IM.14.A Conduct a Market Dynamics Landscape Assessment to Explore Retail Channels for ITNs in Tanzania

[Completed in Year Three.]

### IM.14.B Hold a Stakeholder Workshop to Discuss Findings of the Market Dynamics Assessment

[Completed in Year Three.]

### IM.15 Implementation Support and Technical Assistance for Zanzibar Continuous Distribution

**Brief activity description:** VectorWorks directly supports and oversees the distribution of ITNs in Zanzibar through two channels—the reproductive and child health (RCH) channel and the community channel with technical support. The RCH channel targets women at their first ANC visit and children at their first measles vaccination. The community channel targets community members who meet specific criteria (e.g., ITNs torn beyond repair, uncovered sleeping spaces, active case detection, and emergencies).

**Status:** VectorWorks supported the integration of ITN continuous distribution into the current supply chain management system known as the Zanzibar Integrated Logistics System. VectorWorks, in collaboration with ZAMEP, Central Medical Stores (CMS), and the Logistics Management Unit, successfully developed guidelines for both health facility–based and community-based channels to ensure standard implementation of ITN continuous distribution in Zanzibar. A total of 486 health care workers received training from zonal and council health management teams both in class and on the job to ensure proper management of issuing ITNs to beneficiaries, data documentation, reporting, and ordering ITNs.

Implementation of ITN continuous distribution through the RCH channel is in process and all 171 health facilities in both Unguja and Pemba islands received a total of 52,680 ITNs as an initial smart push. In Quarter Three, we will conduct training sessions for zonal and district teams on implementing continuous distribution through the community channel. ITN distribution through the community-based channel in Zanzibar will take place in early April 2018.

VectorWorks coordinated and provided technical assistance to CMS on ITNs storage and distribution in both health facilities and communities and strengthened the capacity of CMS to manage stock inventory, order processing, and resupply of ITNs to all health facilities in Zanzibar.

**No deliverable associated with this activity.**

## IM.16 Conduct ITN Quantification

[Completed in Year Three.]

## IM.17 Establish Health Facility ITN Storage Space Requirement

[Completed in Year Three.]

## IM.18 Adopt Just-in-Time Delivery Approach for School Net Program ITNs

[Completed in Year Three.]

## IM.19 Private Market Shaping

**Brief activity description:** VectorWorks is working with the government of Tanzania through the NMCP to streamline the role of the private sector in making readily available ITNs for sale in the commercial sector. The Tanzania ITN Plan (2016–2020) recognizes three main channels for continuous distribution of ITNs, which include distribution through health facilities (*Chandarua Kliniki* program), distribution through primary schools (SNP), and distribution through the private sector (commercial sales). Based on progress that we made in Year Three conducting stakeholder workshops, VectorWorks is working with the NMCP and other key stakeholders to address some of the barriers to market entry as identified by stakeholders in Year Three.

**Status:** VectorWorks, in collaboration with NMCP and the Tanzania Parliamentarians Against Malaria, initiated discussions with authoritative bodies broadly concerned with ITNs to convene a meeting to discuss barriers to market entry and forge solutions to address each individual challenge. The meeting will occur in Quarter Three and will bring to the table Tanzania Revenue Authority (taxes), Tanzania Bureau of Standards (untreated nets), Tanzania Pesticide Research Institute (ITN registration), Tanzania Fair Competition Commission (fair competition), net manufacturers, and Tanzania business (beneficiaries).

VectorWorks provided technical assistance to NMCP to operationalize the ITN Plan for Tanzania. We developed a draft commercial channel implementation guideline that will stipulate how the private sector will operate in the context of marketing elements and how other non-marketing issues will be tackled. VectorWorks is planning to hold a working group meeting to discuss the draft document, provide input, and finalize it.

In efforts to facilitate linkages to financing and marketing for ITNs, VectorWorks—through the Malaria Safe initiative—started discussions with members of the initiative, especially from the banking sector, to explore the possibility of creating loan portfolio for traders who want to get into the ITN business. In Year Four, VectorWorks will continue these discussions with the potential banks in collaboration with other projects funded by USAID, such as the Sustaining Health Outcomes through the Private Sector (SHOPS) Plus project.

Deliverables	Audience	Timing	Dissemination Plan	Status
1. Presentations and meeting notes used/from the technical working groups	PMI	Quarters 1–4	Share by email	In process

Deliverables	Audience	Timing	Dissemination Plan	Status
2. Report detailing the number of new ITNs registered in the market, ITNs sold by importers/wholesalers in the market, local ITNs distributors actively engaged in the market because of market linkages to finance, and new products designed by manufacturers following the human-centered design workshops	PMI	Quarter 4	Share by email	

**IM.20 SBCC for Chandarua Kliniki Program**

**Brief activity description:** VectorWorks is supporting the government of Tanzania through the NMCP to implement targeted SBCC activities to promote national-level distribution of ITNs in health facilities (*Chandarua Kliniki* program) and in schools (SNP). We have implemented these activities in 14 regions with the highest malaria prevalence, consistent use of ITNs, and proper care, repair, and washing of ITNs in basins. We reached communities with key messages for each focus area through experiential media in the form of road shows and public announcements in selected regions, districts, and wards.

**Status:** VectorWorks conducted SBCC activities to promote the *Chandarua Kliniki* program and SNP in regions where the programs were new to create awareness and explain the process and eligibility for obtaining an ITN. The targeted regions were Katavi, Kigoma, Morogoro, Pwani, Simiyu, Shinyanga, and Tabora. We reached a total of 49 district councils and conducted 878 road shows. We reached 645,888 people (266,864 males and 379,024 females) through the events in various wards of the 49 district councils. In the Quarter Three, VectorWorks will deploy experiential activities through road shows in regions where *Chandarua Kliniki* has been rolled out for the first time, promote SNP, and design and produce different materials that promote *Chandarua Kliniki* and SNP as well as general ITN use, care repair and proper washing of ITNs.

In efforts to implement a media campaign to promote ITNs, VectorWorks initiated a media buy process to engage radio stations. In Year Four, VectorWorks will continue to use radio channels to air messages promoting the SNP and *Chandarua Kliniki* programs and promoting good practices related to ITN use, care, and repair. We will implement a radio campaign to promote ITNs as they enter the market.

Deliverable	Audience	Timing	Dissemination Plan	Status
Dissemination plan, including number of documents to print and number of community events to conduct by region	NMCP and PMI	Year 4	Share by email	In process

## IM.21 Demand Planning

**Brief activity description:** VectorWorks conducts annual quantitative analysis to forecast ITN needs for 2018, 2019, and 2020 in health facilities in all 26 regions of Tanzania using 2017 HMIS data. VectorWorks estimated a percentage increase of 9.2% through 2020 (by calculating the difference between 2016 and 2017 HMIS issued data). We compared the HMIS issued data with population projections data forecasted for the same years to determine the difference (NMCP through Global Fund used the population projections to procure ITNs for all 26 regions in the same years). Beginning in 2019, PMI will not procure ITNs for the RCH channel and the Global Fund will procure all ITNs needed for the country.

**Status:** VectorWorks shared the costed quantification numbers with PMI for the 14 PMI regions for storage, receiving, dispatch, and distribution for approval. VectorWorks developed a supply plan and PMI has procured and delivered 558,251 ITNs in February 2018. The Global Fund will procure the remaining ITNs (3,286,774) needed for 2018. We expect the first delivery of ITNs (2,274,553) to arrive in-country in September 2018 and the second delivery of ITNs (1,012,221) in December 2018.

VectorWorks recommends using HMIS data in the future to determine ITN needs for the country and quantities of ITNs to procure. All regions have begun implementing the program and therefore HMIS data is more accurate than population data. In regions where VectorWorks has implemented the ITN program for one year, there is a significant difference between the population data and HMIS data. The HMIS data is slightly higher than the population data, which indicates that the number of women attending first ANC visits has increased since the implementation of the *Chandarua Kliniki* program.

Deliverables	Audience	Timing	Dissemination Plan	Status
Annual ITNs supply plan	NMCP, PMI	Quarter 2	Share by email	In process
ITN costing for 14 regions	PMI	Quarter 2	Share by email	In process

## IM.22 Technical Assistance to Medical Stores Department on Warehousing, Inventory Management and Distribution

**Brief activity description:** VectorWorks currently works with the private sector to store and distribute ITNs. We hired private warehouses in different zones to store ITNs and we hired Simba Logistics, to distribute ITNs throughout the country.

The MSD receives ITNs through their systems, processes the orders, and submits sales invoices/proof of delivery to private transporters for distribution. For sustainability purposes, MSD will assume responsibility for the roles of storage and distribution of ITNs throughout the country.

**Status:** VectorWorks is providing technical assistance to MSD to become responsible for ITN storage and distribution. Two zones (Mwanza and Tabora) have taken on storage and one zone (Mwanza) has taken responsibility for distributing to two districts (Ilemela and Nyamagana) in Mwanza Region. However, all MSD zones have assumed responsibility for processing orders and preparing sales invoices/proof of delivery for all regions.

It has been a challenge for MSD to assume full responsibility for ITN distribution due to the inadequate number of vehicles available at MSD and within zones. With support from Global Fund, MSD has received 181 vehicles of different sizes for direct delivery distribution of commodities. The fleet has yet to be allocated to the zones, but the president of Tanzania launched the vehicles at the central level on March 26, 2018, and we

expect them to be allocated to the zones. Hence, with this increase in vehicles, VectorWorks expects MSD to increase their scope and take responsibility for the distribution of ITNs.

VectorWorks plans to conduct quarterly performance assessments of the zones to assess their performance on storage and distribution and strengthen capacity where there are gaps. In May 2018, VectorWorks plans to organize a review meeting with all zonal managers and other related stakeholders for a joint review of their performance. The expected outcome of the meeting will be a plan for each zone on how they will assume full responsibility for the storage and distribution of ITNs by September 2018 when the MSD takes over this function.

Deliverables	Audience	Timing	Dissemination Plan	Status
Updates on the number of districts picked by MSD for distribution and storage	NMCP, PMI	Quarterly	Share by email	Tabora zone is storing ITNs for Tabora, Katavi, and Kigoma regions. Mwanza zone is storing ITNs for Shinyanga Region and distributing in two districts (Nyamagana and Ilemela) in Mwanza Region.
Hire logistics advisor	NMCP, PMI	Quarter 2	Share by email	Complete

### IM.23 Integrate Health Facility and Community ITNs into the Existing Logistics Structure in Zanzibar

**Brief activity description:** VectorWorks directly supports and oversees the distribution of ITNs in Zanzibar through two channels—the RCH channel and the community channel. The RCH channel targets women at their first ANC visit and children at their first measles vaccination, and the community channel targets community members who meet specific criteria (e.g., ITNs torn beyond repair, uncovered sleeping space, active case detection, and emergency situation).

**Status:** We have supported the integration of ITN continuous distribution for both the RCH channel and the community channel through the health commodities ordering and reporting system known as the Zanzibar Integrated Logistics System. As part of the integration process, VectorWorks collaborated with ZAMEP, CMS, and Logistics Management Unit to develop implementation guidelines for both RCH and community channels to ensure standard implementation of ITN continuous distribution in Zanzibar. A total of 486 health care workers received training from zonal and council health management teams through in-class and on-the-job training sessions to ensure proper management of issuing ITNs to beneficiaries, data documentation, and reporting and requesting ITNs.

Currently the RCH channel is being implemented and a total of 52,680 ITNs were distributed as an initial smart push to all 171 health facilities in both Unguja and Pemba Islands. We plan to provide training to zonal and district teams on the community channel implementation in Year Four. Continuous distribution of ITNs through the community channel in Zanzibar will begin in mid-May 2018. The revised Zanzibar continuous

distribution strategy and implementation and training guidelines are being used in Swahili and will be translated and shared with PMI.

Deliverables	Audience	Timing	Dissemination Plan	Status
Revised Zanzibar continuous distribution strategy	ZAMEP, PMI	Quarter 2	Share by email	In process
Revised Zanzibar implementation and training guidelines	ZAMEP, PMI	Quarter 2	Share by email	In process

## IM.24 Develop a Short Course on Implementation and Management of ITN

**Brief activity description:** VectorWorks conducted trainings for health care workers (HCWs) on implementing the *Chandarua Kliniki* project. There is high staff turnover at health facilities, and providing in-person training to all new staff would be costly and require a lot of effort. To provide quality, standardized training easily and inexpensively to new staff, VectorWorks is developing a short video training course on ITN management and documentation, instead of conducting formal, in-person trainings. The video will be shared with the HCWs to ensure the continuity of implementation standards, specifically with regards to issuing the ITNs to the intended audience, documenting the data, and reporting.

**Status:** VectorWorks has contracted with a video production company to create the course and begun initial conversations to develop the course. VectorWorks will work with NMCP and PO-RALG to approve of content as the course is written, filmed, and edited. After it is created, the course will have to be shared and promoted and usage will have to be monitored.

Deliverables	Audience	Timing	Dissemination Plan	Status
Training video	PMI, PO-RALG, NMCP	Quarter 4	Share by email	On schedule

## Project Management (PM)

### PM.1.2 Program Management

**Brief activity description:** In Year Three, VectorWorks significantly expanded project activities. We scaled up SNP to 14 regions (from 7) and expanded *Chandarua Kliniki* to 9 regions (from 2). In Year Four, VectorWorks planned to assist the NMCP to lead similar set of activities with support from the Global Fund.

**Status:** In the first half of Year Four, VectorWorks hired additional staff to support growing project activities. We hired a regional officer to manage regional project activities and also transition project management to Tanzania government officials. The regional officer now manages Morogoro and Coast regions.

We hired a private sector and public relations manager in the Dar es Salaam office. She is now in charge of the Malaria Safe initiative, which has a strong private sector component, and she engages with the government. We hired a program officer in Dar es Salaam who will provide technical assistance to strengthen the capacity of NMCP and MSD to assume full responsibility for receiving, storing, and distributing ITNs. The

program officer will work with MSD and NMCP in 12 regions to implement health facility–based distribution, using the same standard operating procedures used in PMI-supported regions, which pioneered the *Chandarua Kliniki* health facility distribution program. VectorWorks procured a vehicle which will be delivered in Quarter Three.

Deliverables	Audience	Timing	Dissemination Plan	Status
1. vehicle procured	NMCP, PMI	Quarter 3	Share by email	Complete

### PM.2.1 Project Reporting

**Brief activity description:** VectorWorks coordinates with PMI Tanzania to ensure close communication and adequate reporting. We do this through the USAID Tanzania Mission database (Tanzania Monitoring and Evaluation Management Services or TMEMS), regular updates with PMI, and a quarterly joint program planning meeting with PMI. VectorWorks provides semiannual technical reports and quarterly financial reports to USAID headquarters, which we share with PMI Tanzania.

**Status:** VectorWorks Tanzania remains in close communication with PMI Tanzania and USAID Washington. In addition to the above-mentioned required updates and semiannual reports, VectorWorks short-term technical assistance travelers met with PMI Tanzania staff for debriefings. Several representatives of VectorWorks Tanzania will attend the VectorWorks annual planning meeting in June 2018 in Baltimore.

Deliverables	Audience	Timing	Dissemination Plan	Status
1. VectorWorks Tanzania Year 3 annual report	PMI	Quarter 1	Share by email	Complete
2. Year 4 work plan	PMI	Quarter 1	Share by email	Complete
3. Quarterly financial reports	PMI	Quarters 1–4	Share by email	In process
4. VectorWorks Tanzania Year 4 semiannual report	PMI	Quarter 3	Share by email	In process

### PM.3 Planning for Scale-Up

[Completed in Year One.]

### PM.4 International Travel

**Brief activity description:** VectorWorks staff will travel to Tanzania for short-term technical assistance, and Tanzania-based staff to the United States for meetings and conferences, as well as to Switzerland for the Alliance for Malaria Prevention and Vector Control Working Group meetings.

**Status:** VectorWorks staff have provided technical assistance throughout the reporting period during short-term technical assistance trips to Tanzania. All have submitted trip reports to PMI.

VectorWorks staff and the government of Zanzibar staff participated in the Alliance for Malaria Prevention and the Vector Control Working Group annual meeting in Geneva in February 2018, and the American Society of Tropical Medicine and Health conference in Baltimore, Maryland, in November 2017. VectorWorks Tanzania staff will travel to Baltimore for the VectorWorks annual planning meeting in June 2018. VectorWorks will continue to notify PMI, in advance, of all international travel to remind PMI’s Tanzania bureau and the agreement officer’s representative of the travel dates and scope, and to set up any necessary meetings. We will plan to send this notification at least three weeks before travel.

The deliverable for this activity is the submission of trip reports, which are on schedule.

## PM.5 Documentation and Dissemination

**Brief activity description:** During Year Four, VectorWorks contracted a videographer to document VectorWorks activities. Working in coordination with PMI, VectorWorks designed scripts for videos (one long, and several short scripts) to spotlight VectorWorks and PMI’s work with the government of Tanzania. In Year Four, we recorded ITN distributions and interviews with stakeholders and beneficiaries.

**Status:** The videographer is editing and finalizing the videos, with feedback from VectorWorks, PMI, and the NMCP. The videos will feature subtitles in both English and Swahili. We expect them to be complete, with approval from PMI, by April 25, 2018, World Malaria Day, for use in celebrations in Washington, DC, and in Tanzania.

Deliverables	Audience	Timing	Dissemination Plan	Status
Finalized video showcasing the impact of continuous distribution	PMI, NMCP, PO-RALG	Quarter 3	Share by email	In process

# UGANDA

## UG.1 ITN Distribution Technical Assistance

[Completed in Year Two.]

## UG.2 Memo on ITN Use and Talking Points Memo

**Brief activity description:** In an effort to better understand net use and possible misuse, VectorWorks reviewed available data on the use of ITNs from Uganda and drafted two memos. The first memo presents data on the use of ITNs from the recent MIS and DHS and compares the data to other countries. Secondly, VectorWorks drafted a talking points memo about the rates of ITN use in the context of perceived ITN misuse in Uganda and data from Uganda and other countries on repurposing of ITNs and rates of misuse. Moving forward, VectorWorks will update the ITN use memo when new DHS data is released.

**Status:** VectorWorks composed two memos: a net use memo and a talking points memo on ITN misuse and repurposing. The ITN use memo includes information on the Ugandan context of malaria epidemiology, and the perception and use of ITNs. A key finding from the memo is the increasing use of ITNs overall in Uganda as a preventive measure against malaria. The proportion of the population using ITNs among those who have access is much higher in Uganda compared with Ghana and Zimbabwe, and rates are similar to Tanzania. Environmental factors contribute to ITN use among those with access. As stated in the talking points memo, 69 million nets have been distributed in Uganda. There are some gaps in access, mostly for large households, which is why population access has not reached 90%. Findings show that the use of nets for alternative purposes is rare in Uganda. While overall use of ITNs has drastically increased, some barriers to use include negative beliefs about nets, lack of space to hang the nets, and nets being too old. VectorWorks submitted a draft of the ITN use memo and respective talking points to PMI Uganda on September 19, 2017. PMI Uganda returned the memos with questions and comments on October 10, 2017. VectorWorks submitted a final version of the talking points memo on October 28, 2017. PMI approved it on November 2, 2017.

VectorWorks recently used the Uganda DHS 2016 data set and updated some of the graphs from the ITN use memo. We will submit the updated Uganda ITN use memo to PMI by May 2018.

Deliverable	Audience	Timing	Dissemination Plan	Status
1. ITN use memo	NMCP, PMI	Quarter 4	Email to PMI	Submitted final draft to PMI: October 28, 2017  PMI approved the ITN use memo on November 2, 2017
2. Talking points memo on ITN misuse, non-use, and repurposing	NMCP, PMI	Quarter 4	Email to PMI	Submitted final draft to PMI: October 28, 2017  PMI approved the talking points memo on November 2, 2017

# CORE PMP

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## Core Results Framework

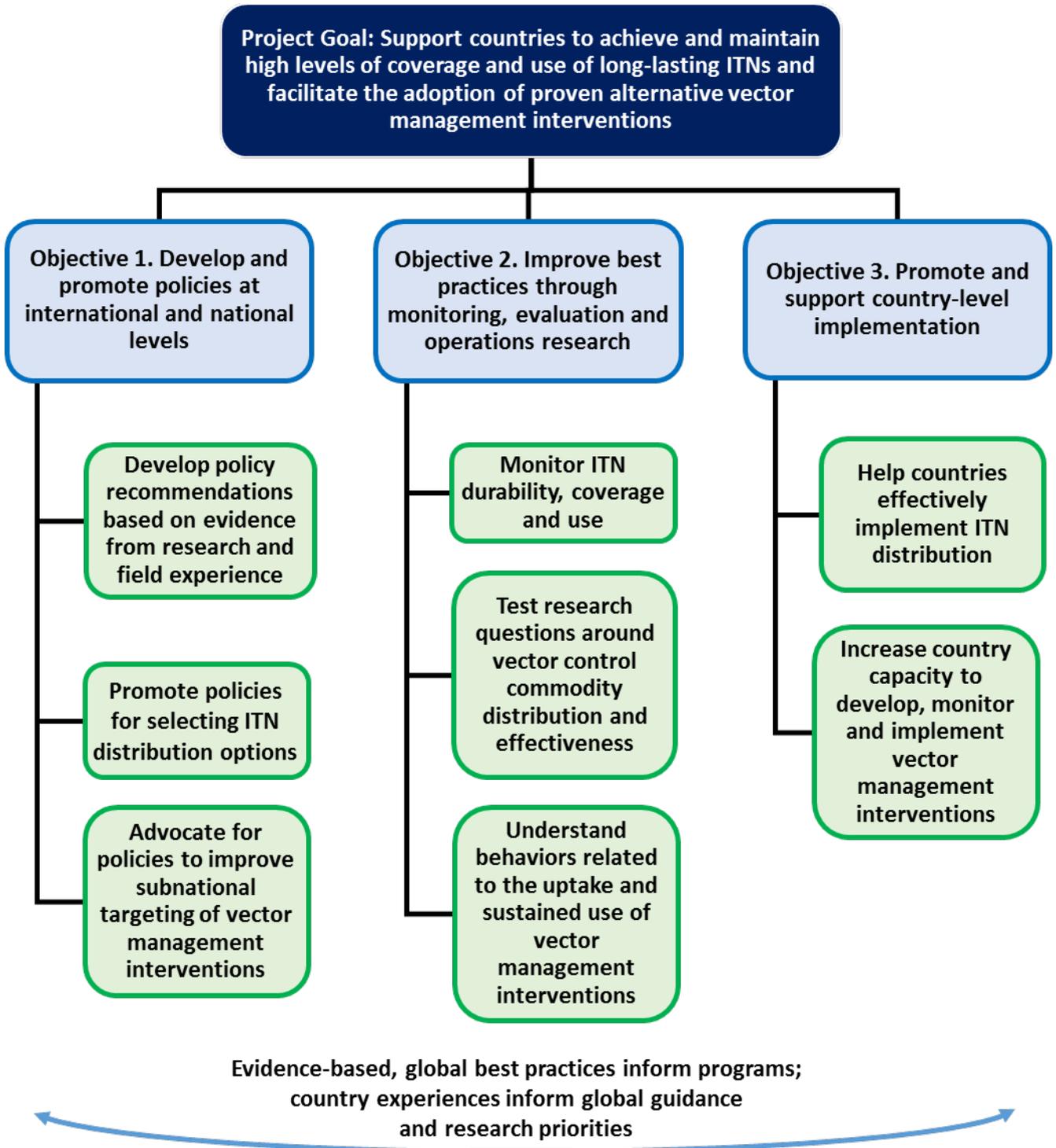
The VectorWorks results framework (see Figure 1) describes the pathways linking activities to the project goal of supporting countries to achieve and maintain high levels of coverage and use of ITNs and facilitate the adoption of proven alternative vector management interventions. In this framework, each activity contributes to the fulfillment of project objectives, which in turn contribute to the overall project goal.

The project will contribute to the goal through three objectives:

1. Develop and promote policies at international and national levels
2. Improve current best practices through monitoring, evaluation, and operations research
3. Promote and support country-level implementation

VectorWorks will develop and promote improved policy, standards, and guidance (Objective 1) via WHO and RBM channels, informed by monitoring and evaluation activities undertaken under Objective 2, and issues and challenges from field implementation experience from Objective 3. Work in policy and research will bear fruit in Objective 3, when VectorWorks will strengthen country capacity to reach and sustain universal coverage with the right mix of distribution channels and approved alternative tools that are adapted to the country context, and closely coordinated with other vector control measures.

Figure 1. Results framework



## Project Objectives and Related Performance Indicators

### Objective 1: Develop and promote policies at both the international and national levels to encourage sustained, high levels of coverage and use of long-lasting ITNs and/or alternative vector management interventions.

Countries are now considering the use of ITN distribution channels beyond mass campaigns, and they need guidance on which channels to use, and when, where, how, and whether to use these channels alongside mass campaigns. Similarly, different contexts vary in their epidemiology, resources, and type of malaria vector, which may require adapting vector management strategies at regional and district levels. VectorWorks will use evidence-based and participatory approaches to advocate policies that provide countries with the guidance to (1) choose their mix of ITN distribution channels and (2) improve subnational targeting of vector management interventions. Using experience and evidence collected and analyzed under Objectives 2 and 3, VectorWorks will identify policy issues and engage relevant stakeholders in developing a common policy agenda. Next, VectorWorks will draft policy recommendations and circulate it among stakeholders for feedback. These two steps in particular will entail collaborating with and presenting to several working groups and target audiences. VectorWorks policy efforts will bear fruit when the MPAC at WHO, PMI, or the HWG at RBM officially endorses the policy, opening the way for use of PMI and Global Fund resources for country implementation on a larger scale.

Indicator	Definition	Source, frequency, and reporting unit	Targets	Actuals
1.1 Number of VectorWorks-supported policy documents submitted to VCTEG	Number of VectorWorks-supported policy documents drafted and submitted to VCTEG. <sup>a</sup> Documents may be accompanied by presentations as part of the dissemination strategy or to promote them at VCTEG, but the deliverable to be counted is the number of policy documents.	<ul style="list-style-type: none"> <li>Source: Project reports</li> <li>Frequency: Semiannual</li> <li>Reporting units: Core</li> </ul>	Year 1: 1 Year 2: 2 Year 3: 3 Year 4: 2 Year 5: 2 LOP: 10	Year 1: 0 Year 2: 1 Year 3: 1 Year 4: 0 Year 5: – LOP: –
1.2 Number of VectorWorks-supported policies endorsed by VCTEG	Number of VectorWorks-supported policies endorsed by VCTEG. <sup>a</sup> The policy must be endorsed in the VCTEG meeting reports.	<ul style="list-style-type: none"> <li>Source: VCTEG meeting reports</li> <li>Frequency: Semiannual</li> <li>Reporting units: Core</li> </ul>	Year 1: 0 Year 2: 1 Year 3: 2 Year 4: 2 Year 5: 2 LOP: 7	Year 1: 0 Year 2: 0 Year 3: 1 Year 4: 0 Year 5: – LOP: –
1.3 Number of VectorWorks-supported policies endorsed by MPAC	Number of VectorWorks-supported policies endorsed by MPAC. <sup>a</sup> The policy must be endorsed in the MPAC meeting reports published in <i>Malaria Journal</i> .	<ul style="list-style-type: none"> <li>Source: MPAC reports</li> <li>Frequency: Annual</li> <li>Reporting units: Core</li> </ul>	Year 1: 0 Year 2: 1 Year 3: 0 Year 4: 1 Year 5: 1 LOP: 3	Year 1: 0 Year 2: 0 Year 3: 0 Year 4: 1 Year 5: – LOP: –

Indicator	Definition	Source, frequency, and reporting unit	Targets	Actuals
1.4 Number of VectorWorks-supported policies incorporated into HWG or PMI guidance	Number of VectorWorks-supported policies incorporated into HWG or PMI guidance. <sup>a</sup> The policy must have been incorporated into the HWG or MOP guidance notes or circulated as PMI guidance.	<ul style="list-style-type: none"> <li>• Source: HWG and PMI MOP guidance notes</li> <li>• Frequency: Semiannual</li> <li>• Reporting units: Core</li> </ul>	Year 1: 2 Year 2: 1 Year 3: 0 Year 4: 1 Year 5: 1 LOP: 5	Year 1: 2 Year 2: 2 Year 3: 7 Year 4: 3 Year 5: – LOP: –
1.5 Number of PMI countries adopting at least one VectorWorks-supported policy or guideline	The number of PMI countries that have adopted VectorWorks-supported policies. <sup>a</sup> A country is considered to have adopted the policy if the PMI MOP states that they are following that guideline or if the USAID mission is funding its implementation.	<ul style="list-style-type: none"> <li>• Source: Review of PMI MOPs</li> <li>• Frequency: Annual</li> <li>• Reporting units: Core</li> </ul>	Year 1: 0 Year 2: 2 Year 3: 4 Year 4: 4 Year 5: 4 LOP: 14	Year 1: 18 Year 2: 18 Year 3: 21 Year 4: TBD Year 5: – LOP: –

<sup>a</sup> A policy document is considered to have been supported by VectorWorks if VectorWorks provided funds for its drafting and presentation or if VectorWorks provided technical input on the draft.

**Objective 2: Design, conduct and analyze results from monitoring, evaluation, and operational research activities in order to improve current best practices of long-lasting ITNs and/or alternative vector management interventions.**

VectorWorks research activities will center on (1) monitoring ITN durability, coverage, and use; (2) testing research questions around commodity distribution and effectiveness; and (3) understanding behaviors related to the uptake and sustained use of vector management interventions. VectorWorks will choose monitoring, evaluation, and operations research activities based on the advice of its expert committee and in consultation with PMI. Such activities are selected based on priorities identified by national malaria control programs, PMI, international stakeholders (WHO, RBM, Global Fund), and the expert committee’s assessment of their relevance to the project’s scope and feasibility. Once VectorWorks has identified research topics, it will draft research protocols, collect data, and analyze and disseminate results. The project will use the results to inform global and national guidance and implementation.

Indicator	Definition	Source, frequency, and reporting unit	Targets	Actuals
2.1 Number of research protocols completed	The number of research protocols that have been completed, disaggregated by OR and non-OR protocols. An OR protocol is defined as complete when it has been submitted and approved by the PMI OR committee and Johns Hopkins University School of Public Health (JHSPH) Institutional Review Board (IRB). A non-OR protocol is defined as completed when it has been submitted and approved by the JHSPH IRB; non-OR protocols do not go through the PMI OR committee. The JHSPH IRB officially approves protocols upon internal review and upon receiving approval from in-country IRBs.	<ul style="list-style-type: none"> <li>Source: Research tracking spreadsheet</li> <li>Frequency of reporting: Semiannually</li> <li>Reporting units: Core and field sites</li> </ul>	<p><b>OR</b></p> Year 1: 1 Year 2: 1 Year 3: 1 Year 4: 0 Year 5: 0 LOP: 3	<p><b>OR</b></p> Year 1: 0 Year 2: 1 Year 3: 2 Year 4: 2 Year 5: – LOP: –
2.2.1 Percentage of PMI-funded durability monitoring surveys with core indicator reports available online (Canceled Year 3)	<p><b>Numerator:</b> Number of durability monitoring surveys for which consistently defined core indicator reports have been posted on the website. Consistency is defined as a data collection or reporting method that is in line with PMI global guidance.</p> <p><b>Denominator:</b> Total number of PMI-funded durability monitoring surveys.</p>	<ul style="list-style-type: none"> <li>Source: Durability monitoring website</li> <li>Frequency of reporting: Semiannually</li> <li>Reporting units: Core</li> </ul>	Year 1: 90% Year 2: 90% Year 3: 90% Year 4: 90% Year 5: 90% LOP: 90%	Year 1: 0% Year 2: 0% Year 3: N/A Year 4: – N/A Year 5: – N/A LOP: – N/A

Indicator	Definition	Source, frequency, and reporting unit	Targets	Actuals
2.2.2. Number of PMI-funded durability monitoring surveys with preliminary reports submitted within 90 days of data collection.	Each data collection time point (i.e., baseline, 12-month, 24-month, and/or 36-month) counts as an individual survey report. Preliminary reports should include results on survivorship, attrition and insecticidal activity. Approval can be granted outside the 90 day window.	<ul style="list-style-type: none"> <li>• Source: Durability monitoring reports</li> <li>• Frequency of reporting: Semiannually</li> <li>• Reporting units: Core and Field</li> </ul>	Year 1: 0 Year 2: 4 Year 3: 5 Year 4: 5 Year 5: 8 LOP: 22	Year 1: 0 Year 2: 1 Year 3: 1 Year 4: 3 Year 5: - LOP: -
2.3 Number of research reports produced and disseminated	The number of research reports that have been produced and disseminated. The report must have been posted on the VectorWorks website and shared through electronic mailing lists and in-person or remote presentations at least twice. The report can take the form of a full document or a presentation.	<ul style="list-style-type: none"> <li>• Source: VectorWorks website; research tracking spreadsheet</li> <li>• Frequency of reporting: Semiannually</li> <li>• Reporting units: Core</li> </ul>	Year 1: 2 Year 2: 5 Year 3: 7 Year 4: 10 Year 5: 10 LOP: 34	Year 1: 2 Year 2: 5 Year 3: 3 Year 4: 4 Year 5: – LOP: –
2.4 Number of peer-reviewed journal articles published	The number of peer-reviewed journal articles published for which VectorWorks funded significant inputs, such as data collection, analysis, or write-up.	<ul style="list-style-type: none"> <li>• Source: Research tracking spreadsheet</li> <li>• Frequency of reporting: Semiannually</li> <li>• Reporting units: Core</li> </ul>	Year 1: 5 Year 2: 4 Year 3: 4 Year 4: 4 Year 5: 6 LOP: 23	Year 1: 4 Year 2: 2 Year 3: 4 Year 4: 2 Year 5: – LOP: –

**Objective 3: Promote and support country-level implementation of malaria prevention activities to ensure sustained high level coverage and use of long-lasting ITNs and, as needed, targeted coverage and appropriate use of alternative vector management interventions.**

VectorWorks will provide assistance to national malaria control programs to develop and implement state-of-the-art practices for ITN distribution. Related activities will include technical assistance visits, development of implementation guides, documentation and sharing of country experiences, training implementers and supervisors, and direct implementation of ITN distribution programs.

Indicator	Definition	Source, frequency, and reporting unit	Targets	Actuals
3.1 Number of documents produced to improve implementation of vector management interventions	Number of documents produced by VectorWorks to improve implementation of vector management interventions. Documents can include guides, toolkits, case studies, and tools such as NetCALC. Journal articles are counted elsewhere and are not included in this indicator.	<ul style="list-style-type: none"> <li>Source: Semiannual report</li> <li>Frequency of reporting: Semiannually</li> <li>Reporting units: Core</li> </ul>	Year 1: 3 Year 2: 7 Year 3: 7 Year 4: 7 Year 5: 9 LOP: 33	Year 1: 0 Year 2: 7 Year 3: 4 Year 4: 0 Year 5: – LOP: –
3.2 Number of USAID country missions that contribute funds	Number of USAID country missions that obligate funds to VectorWorks each year. Missions may be counted multiple times in the LOP total.	<ul style="list-style-type: none"> <li>Source: Cooperative agreement modifications</li> <li>Frequency: Semiannually</li> <li>Reporting units: Core</li> </ul>	Year 1: 6 Year 2: 7 Year 3: 6 Year 4: 7 Year 5: 6 LOP: 32	Year 1: 6 Year 2: 13 Year 3: 10 Year 4: 9 Year 5: – LOP: –

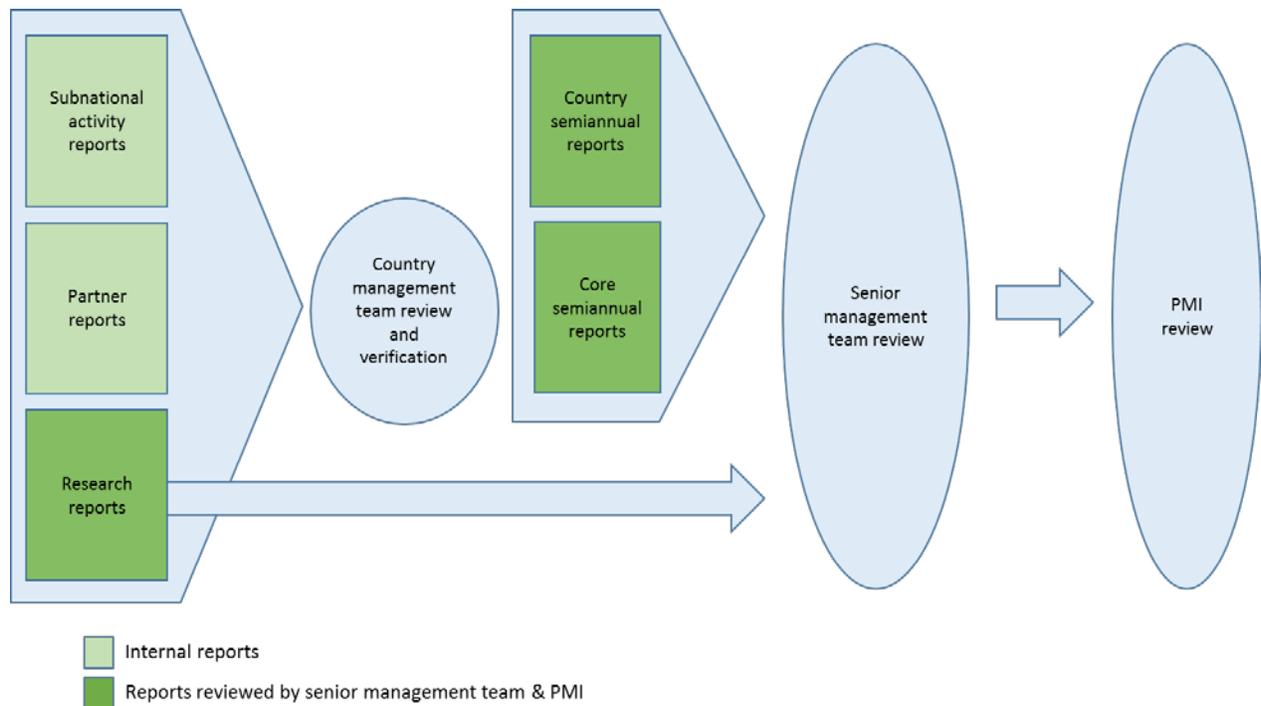
## Research and Evaluation Plan

Descriptions of research and evaluation activities are found under Objective 2 of the work plan.

### Reporting

The following reporting flow chart (Figure 2) illustrates the flow of data and levels of reporting, aggregation, and data quality assurance.

Figure 2. Reporting flow chart



Partners and activity managers will complete activity reports. Country management teams will be responsible for reviewing the reports and verifying the data reported by cross-checking primary data sources and summary forms. Team members on technical assistance visits will also check on data quality, reporting frequency, and completeness during their visits. Semiannual reports and accompanying performance monitoring plans (PMPs) drafted by country teams will summarize activity reports, partner reports, and research reports. Semiannual and research reports will receive final review by the senior management team before submission to PMI. The monitoring and evaluation officers or focal points for each program should archive supporting documents and data sets and provide them upon request to confirm the reported results.

## Indicator Reference Sheets

### Objective 1: Develop and promote policies at international and national levels

#### Indicator 1.1: Number of VectorWorks-supported policy documents submitted to VCTEG

Year	Target	Actual
1	1	0
2	2	1
3	3	1
4	2	0
5	2	–
Life of project	10	–

**Unit of measure:** Number

**Disaggregation:** None

**Definition:** The total number of VectorWorks-supported policy documents drafted and submitted to the VCTEG. A policy document is considered to have been supported by VectorWorks if VectorWorks provided funds for its drafting and presentation or if VectorWorks provided technical input on the draft. Documents may be accompanied by presentations as part of the dissemination strategy or to promote them at VCTEG but the deliverable to be counted is the number of policy documents.

**Source:** Project reports

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** Core

**Notes:**

Year One potential targets: Guidance on subnational targeting, vector control graduation document, and continuous distribution.

Year One actuals: The WHO Global Malaria Programme funded the vector control graduation document. Matt Lynch provided review comments to the draft version, but VectorWorks otherwise did not make substantive contributions. The document focused on removal of vector control interventions, but did not address scaling back, targeting, or replacing with less intensive interventions.

Year Two potential targets: School distribution, geographical targeting, mass campaigns in urban settings.

Year Two actuals: Net preferences (Note: It was submitted in Year 2 but VCTEG delayed the review to Year 3).

Year Three actuals: Repurposing (Note: Reviewed by the VCTEG in Q2; VCTEG declined to review the issue further and has delegated it to AMP and SBCC Working Group).

Year 4 actuals: The November 2017 VCTEG agenda did not address any areas of our research. VectorWorks anticipates submitting the cost-effectiveness of continuous distribution strategies for the next VCTEG.

### Indicator 1.2: Number of VectorWorks-supported policies endorsed by VCTEG

Year	Target	Actual
1	0	0
2	1	0
3	2	1
4	2	0
5	2	–
Life of project	7	–

**Unit of measure:** Number

**Disaggregation:** n/a

**Source:** VCTEG meeting reports

**Definition:** The number of VectorWorks-supported policies endorsed by VCTEG. The policy must be endorsed in the VCTEG meeting reports. A document is considered to have been supported by VectorWorks if VectorWorks provided funds for its drafting and presentation or if VectorWorks provided technical input on the draft.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** Core

**Notes:**

Year One actuals: VectorWorks did not provide any substantial technical or financial input on any documents for the VCTEG this year.

Year Two actuals: None. We anticipate a VCTEG meeting on the net preferences paper in early Year 3.

Year Three actuals: Net preferences (Note: The study on net preferences was reviewed by VCTEG in Q2; universal coverage recommendations will be updated to include a paragraph on the main findings).

Year Four actuals: None. WHO’s Recommendations for Achieving Universal Coverage were updated in December 2017 and included a recommendation derived from our work on net preferences (the work cited in the Year 3 actuals).

### Indicator 1.3: Number of VectorWorks-supported policies endorsed by the Malaria Policy Advisory Committee

Year	Target	Actual
1	0	0
2	1	0
3	0	0
4	1	1
5	1	–
Life of project	3	–

**Unit of measure:** Number

**Disaggregation:** None

**Source:** MPAC reports

**Definition:** The number of VectorWorks-supported policies endorsed by MPAC. The policy must be endorsed in the MPAC reports published in *Malaria Journal*. A document is considered to have been supported by VectorWorks if VectorWorks provided funds for its drafting and presentation or if VectorWorks provided technical input on the draft.

**Frequency of reporting:** Annually

**Reporting format:** Annual report

**Reporting units:** Core

**Notes:**

MPAC endorsements, although powerful, are very high level and relatively infrequent. Hence, we do not anticipate frequent examples of such endorsements.

Year One actuals: VectorWorks did not provide any substantial technical or financial input on any documents for the MPAC this year.

Year Two: VectorWorks did not provide any substantive input on documents for the MPAC in this year. MPAC discussed the prioritization of vector control tools we provided, but it was not endorsed. Therefore, it does not meet the definition.

Year Three actuals: None

Year Four actuals: VectorWorks presented on ITN access and quantification for ITNs at the WHO meeting on Universal Access in Q2, and the resulting report from that meeting was on the agenda for review at the MPAC meeting in Q3. MPAC report is pending.

**Indicator 1.4: Number of VectorWorks-supported policies incorporated into Harmonization Working Group or PMI guidance**

Year	Target	Actual
1	2	2
2	1	2
3	0	7
4	1	3
5	1	–
Life of project	5	–

**Unit of measure:** Number

**Disaggregation:** n/a

**Source:** HWG and PMI Malaria Operational Plan (MOP) guidance notes

**Definition:** Number of VectorWorks-supported policies incorporated into HWG or PMI guidance. The policy must have been incorporated into the HWG or MOP guidance notes or circulated as PMI guidance.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** Core

**Notes:**

Year One target: Carry-over from the NetWorks project—net misuse guidance and use-to-access ratio.

Year One actuals: Durability monitoring (MOP guidance); use-to-access ratio (MOP and HWG guidance).

Year Two actuals: school distribution (MOP guidance); net care (MOP guidance). VectorWorks also provided input on the Global Fund guidance.

Year Three actuals: VectorWorks provided language for the continuous distribution section of Global Fund’s Guidance Note on Malaria (formerly the HWG Guidance Note). MOP guidance reflects previous inputs on school distribution, net care, and durability monitoring. VectorWorks also provided inputs on an update to WHO’s Recommendations for Achieving Universal Coverage, drafting language on considering ITN preferences, avoiding top-up campaigns, avoiding door-to-door visits solely to improve ITN use.

Year Four actuals: Repurposing definitions, indicator reference guide, and key results from the cost analysis presented by Josh Yukich were added to PMI technical guidance.

**Indicator 1.5: Number of PMI countries adopting at least one VectorWorks-supported policy**

Year	Target	Actual
1	0	18
2	2	18
3	4	21
4	4	–
5	4	–
Life of project	14	–

**Unit of measure:** Number

**Disaggregation:** By policy

**Source:** Review of PMI MOPs

**Definition:** The number of PMI countries that have adopted policies advocated by VectorWorks. A document is considered to have been advocated by VectorWorks if VectorWorks provided funds for its drafting and presentation or if VectorWorks provided technical input on the draft. A country is considered to have adopted the policy if the PMI MOP states that they are following that guideline or if the USAID mission is funding its implementation.

**Frequency of reporting:** Annually

**Reporting format:** Annual report

**Reporting units:** Core

**Notes:**

The Year One target was set to zero because the first set of MOPs that may reflect the influence of VectorWorks would not be released until November 2015 (Year Two). However, they were released before November 15, so VectorWorks was able to review them in time for the Year Two annual report submission.

Year Three – PMI added three countries and Mekong was split into 3 individual country MOPs.

Year Four - The FY19 MOPs were not yet posted as of May 15, 2018.

**Annual results by country:**

	Year 1	Year 2	Year 3	Year 4 (FY19 MOPs not posted yet)	Year 5
1. Angola	Durability monitoring is in the national strategy; PMI will fund technical	Shifted from a rolling campaign to a	UAR, Mass campaign process assessment measures, Net care,		

	Year 1	Year 2	Year 3	Year 4 (FY19 MOPs not posted yet)	Year 5
	assistance for continuous distribution (CD)	nationwide campaign.	Repurposing and disposal		
2. Benin	Durability (past data being reviewed)	School distribution, durability monitoring	UAR, DM, School distribution, Outdoor sleeping research		
3. Democratic Republic of the Congo	NMCP strategic plan 2016–2020 includes continuous distribution (all channels); PMI will fund continuous distribution	Not released as of Nov 12, 2016	DM School distribution SBCC to discourage misuse		
4. Ethiopia	Continuous distribution by health extension workers	CD with HEWs	DM		
5. Ghana	Will continue continuous distribution	Net care SBCC	CD, UAR, Indicator guide, School BCC		
6. Mekong	Durability monitoring	-None-	-NA– split into multiple countries-		
7. Guinea	Durability monitoring	Durability monitoring	DM, school distribution		
8. Kenya	Continuous distribution	CD, durability monitoring	Community distribution, durability monitoring		
9. Liberia	None (continuing antenatal care clinic distribution, no durability monitoring)	Durability monitoring	Exploration of school distribution, monitoring of ANC distribution, durability monitoring		

	Year 1	Year 2	Year 3	Year 4 (FY19 MOPs not posted yet)	Year 5
10. Madagascar	Durability monitoring, expansion of CD	Durability monitoring expansion of community distribution	Community distribution, school distribution		
11. Malawi	Durability monitoring	Durability monitoring, net care SBCC	UAR, misuse		
12. Mali	None	Durability monitoring, net care SBCC	DM		
13. Mozambique	Durability monitoring	School distribution	NetCALC, school distribution, durability monitoring,		
14. Nigeria	No MOP online as of November 13, 2015, but counted because Nigeria is funding durability monitoring	Durability monitoring, net care SBCC, CD mentioned but not enough nets available	CD, SBC for CD		
15. Rwanda	“Targeted” community-based distribution, net durability, care and repair	Net durability	DM		
16. Senegal	Durability monitoring, CD	net care SBCC	-None-		
17. Tanzania	CD & net care	CD & durability monitoring	DM, CD, SBC for CD,		
18. Uganda	CD (schools), net care, durability monitoring	Net durability, school distribution	UAR, CD, DM		

	Year 1	Year 2	Year 3	Year 4 (FY19 MOPs not posted yet)	Year 5
		(traditional and “novel”), durability monitoring			
19. Zambia	CD, durability monitoring,	CD, durability monitoring	DM, CD		
20. Zimbabwe	CD, durability	Durability monitoring, SBCC for net durability	Rectangular nets SBC, community distribution, DM		
21. Burkina Faso			-None-		
22. Cameroon			-None-		
23. Cote d'Ivoire			DM (will be funded for the 2019 mass campaign)		
24. Cambodia			DM		
25. Burma			-None-		
26. Thailand			-None-		

## Objective 2. Improve best practices through monitoring, evaluation, and operations research

### Indicator 2.1: Number of research protocols completed, disaggregated by OR and non-OR protocols

#### Operations research:

Year	Target	Actual
1	1	0
2	1	1
3	1	2
4	0	2
5	0	–
Life of project	3	–

#### Non-operations research:

Year	Target	Actual
1	3	0
2	5	6
3	7	7
4	3	10
5	2	–
Life of project	20	–

**Unit of measure:** Number

**Disaggregation:** Disaggregated by OR and non-OR protocols, and source of funds

**Source:** Research tracking spreadsheet

**Definition:** The number of research protocols that have been completed, disaggregated by OR and non-OR protocols. An OR protocol is defined as complete when it has been submitted and approved by the PMI OR committee and the Johns Hopkins University School of Public Health (JHSPH) IRB. Non-OR protocols did not go through the PMI OR committee. Non-OR protocols have been defined as completed when they have been submitted and approved by the JHU IRB. The JHU IRB officially approves protocols upon internal review and upon receiving approval from in-country IRBs.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** Core and field sites

**Notes:** Targets based on previous experience under the NetWorks project

Year One actuals:

Operations research: VectorWorks submitted three concept notes, but the OR committee did not approve them.

Non-operations research: The JHSPH IRB considered only the Mozambique durability monitoring protocol to be research but had not approved it by the end of Year One.

Activities deemed non-research by the IRB (they do not count as OR or non-OR): Accountability report, Continuous Distribution Toolkit usability testing, the Zimbabwe process evaluation, and the cost analysis (provided by Tulane University).

Year Two actuals:

Operations research: Outdoor transmission in Tanzania

Non-operations research: Mozambique, Nigeria, Myanmar, DRC, and Zanzibar durability monitoring protocols and the DCE study.

Activities deemed non-research by the IRB (they do not count as OR or non-OR): Tanzania process evaluation (public health practice), and the Tanzania commodity management audit (public health practice), and the Zanzibar process evaluation (public health practice).

Year Three actuals:

Operations research: Outdoor transmission in Tanzania; net care and repair in Tanzania

Non-operations research: Mozambique, Nigeria, Myanmar, DRC, and Zanzibar durability monitoring protocols; Malawi ITN misuse study; Mozambique school pilot evaluation

Activities deemed non-research by the IRB (they do not count as OR or non-OR): Counterfeit nets study; Senegal social marketing household survey in Dakar

Year 4 actuals:

Operations research: Outdoor transmission in Tanzania; Net motion sensor study

Non-operations research: Mozambique, Nigeria, Myanmar, DRC, Zanzibar, Kenya, Liberia, Ghana durability monitoring protocols; Guinea school pilot evaluation; Mozambique school pilot evaluation;

Activities deemed non-research by the IRB (they do not count as OR or non-OR): Ghana net use qualitative research; Counterfeit nets study; Tanzania LQAS for ITN coverage;

**Indicator 2.2.1: Percentage of PMI-funded durability monitoring surveys with core indicator reports available online (Canceled in Year 3)**

Year	Target	Actual
1	90%	0%
2	90%	0%
3	90%	0%
4	90%	–
5	90%	–
Life of project	90%	–

**Unit of measure:** Percentage

**Disaggregation:** None

**Source:** Durability monitoring website

**Definition:**

Numerator: The number of durability monitoring surveys for which consistently defined core indicator reports have been posted on the website. Consistency is defined as the data collection or reporting method being in line with PMI global guidance.

Denominator: All PMI-funded durability monitoring surveys.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** Core

**Notes:**

Year One actuals: PMI had not yet approved the durability monitoring protocol at the end of the fiscal year and the website was not yet live.

Year Two semiannual actuals: Baseline data from Mozambique and Nigeria are expected by the end of Year Two.

Year Three actuals: None (Note: In discussions with PMI in early Year 3, PMI determined that it is not advisable to post the durability monitoring reports online for public use. For this reason, several reports were submitted and remained internal to PMI and to VectorWorks: baseline reports Mozambique, Nigeria, and Myanmar have been submitted to PMI and approved. Baseline reports for DRC and Zanzibar have also been submitted)

**Indicator 2.2.2: Number of PMI-funded durability monitoring surveys with preliminary reports submitted within 90 days of data collection.\***

Year	Target	Actual
1	0	0
2	4	1
3	5	1
4	5	3
5	8	--
Life of project	22	--

\*Indicator introduced in year 3.

**Unit of measure:** Number

**Disaggregation:** None

**Source:** Durability monitoring reports

**Definition:** Each data collection time point (i.e., baseline, 12-month, 24-month, and/or 36-month) counts as an individual survey report. Preliminary reports should include results on survivorship, attrition and insecticidal activity. Approval can be granted outside the 90 day window.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** Core and Field

**Notes:**

This indicator replaced 2.2.1 in June 2017 (Year 3, Q3). In discussions with PMI in early Year 3, PMI determined that it is not advisable to post the durability monitoring reports online for public use.

Year One target was 0 because protocols were still in development.

Year Two actuals were back-calculated and first reported in Year 3: Burma/Myanmar baseline

Year Three actuals: Nigeria Oyo baseline.

Year Four actuals: DRC 12-month report, Nigeria 24-month report, and Zanzibar 12-month report

Gray boxes indicate completed reports.

Country	Baseline	12-month	24-month	36-month
Burma/ Myanmar	Fieldwork completed Aug 2016  Report submitted: Oct. 11, 2016  Report approved Feb. 27, 2017	Fieldwork completed Jan 2017  Report submitted: May 30, 2017  Report approved June 20, 2017	Fieldwork completed Dec 2017  Report submitted: April 26, 2018  Report with PMI Burma awaiting approval	Fieldwork scheduled for Jan 2019

<b>DRC</b>	Fieldwork completed Oct 2016  Report submitted March 21, 2017  Report approved: June 1, 2017	Fieldwork completed Sep 2017  Report submitted December 1, 2017  Report with PMI awaiting approval	Fieldwork scheduled for May 2018	Fieldwork scheduled for May 2019
<b>Mozambique</b>	Fieldwork completed Nov 2015  Report submitted: Oct. 18, 2016  Report approved Dec. 12, 2016	Fieldwork completed Aug 2016  Report submitted: June 5, 2017  Report approved July 5, 2017	Fieldwork Completed in August 2017  Report submitted January 5, 2018  Report approved March 6, 2018	Fieldwork scheduled for May/August 2018
<b>Nigeria</b>	Zamfara and Ebonyi fieldwork completed March 2016  Oyo fieldwork completed Dec 2016  Report submitted: March 3, 2017  Report approved March , 2017	Zamfara and Ebonyi fieldwork completed October 2016  Oyo fieldwork Completed October 2017  Report submitted May 5, 2017  Report approved August 30, 2017	Zamfara and Ebonyi completed October 2017  Oyo fieldwork scheduled for October 2018  Report submitted January 17, 2018  Report approved March 6, 2018	Zamfara and Ebonyi fieldwork scheduled for September 2018  No 36m Oyo fieldwork will take place
<b>Zanzibar</b>	Fieldwork completed Nov 2016  Report submitted: March 20, 2017  Report approved May 7, 2017	Fieldwork completed Aug 2017  Report submitted November 6, 2017  Report approved March 5, 2018	Fieldwork scheduled for July 2018	Fieldwork scheduled for June 2019

### Indicator 2.3: Number of research reports produced and disseminated

Year	Target	Actual
1	2	2
2	5	5
3	7	3
4	10	4
5	10	–
Life of project	34	–

**Unit of measure:** Number

**Disaggregation:** None

**Source:** VectorWorks website, research tracking spreadsheet

**Definition:** The number of research reports that have been produced and disseminated. The report must have been posted on the VectorWorks website and linked to from online mailing lists and in-person or remote presentations at least twice. The report can take the form of a full document or a presentation.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual reports

**Reporting units:** Core

**Notes:**

Targets based on previous experience under the NetWorks project.

Year One targets: Nasarawa community-based distribution report; access-to-use ratio report.

Year One actuals: Nasarawa community-based distribution report; access-to-use ratio report.

Year Two actuals: Access:Use Ratio report; SNP3 costing report; Zanzibar costing report; ITN use in context of IRS report; and the net preferences report. (Note: several reports related to misuse were produced but remained internal to PMI and the project. These included: literature review summarizing evidence addressing LLIN misuse for fishing, GIS report on population estimates, potential harm from insecticide leaching report, and the potential harm from small-mesh nets report)

Year Three actuals: Access:Use Ratio report; Experimental auctions study report; Mali costing report

Year Four actuals: Malawi Net Misuse Rapid Assessment Report, Open Malaria Modelling on pooled PMI DM data sets; Access:Use Ratio report updated; Ghana report on ITN use

In draft or submitted & needs approval: Source of Nets report, Urban distribution report, Counterfeit nets; Ghana costing; Nigeria 2015 MIS report on ITN use; Mozambique school pilot evaluation baseline; CD costing meta-analysis; CD cost effectiveness modeling; ITN Access paper,

## Indicator 2.4: Number of peer-reviewed journal articles published

Year	Target	Actual
1	5	4
2	4	2
3	4	4
4	4	2
5	6	–
Life of project	23	–

**Unit of measure:** Number

**Disaggregation:** None

**Source:** Research tracking spreadsheet

**Definition:** The number of peer-reviewed journal articles published for which VectorWorks funded significant inputs such as data collection, analysis, or write-up.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** Core

**Notes:**

Targets based on previous experience under the NetWorks project.

Year One actuals: Uganda Care and Repair, Ghana Outdoor Sleeping, Uganda Hang Up, Nigeria Durability.

Year Two actuals: Multi-country analysis of campaign outcomes (Zegers); ANC-EPI four-country assessment (Theiss-Nyland)

Year Three annual actuals:

- Theiss-Nyland, Kathleen et al "Operational challenges to continuous LLIN distribution: a qualitative rapid assessment in four countries." *Malaria Journal* 15(1) (2016): 131.
- Beyl, Celine Zegers, et al. "Evaluation of community-based continuous distribution of long-lasting insecticide-treated nets in Toamasina II District, Madagascar." *Malaria journal* 16.1 (2017): 327.
- Gingrich, Chris D., et al. "Demand and willingness-to-pay for bed nets in Tanzania: results from a choice experiment." *Malaria journal* 16.1 (2017): 285.
- Kilian, Albert, et al. "Evaluation of a continuous community-based ITN distribution pilot in Lainya County, South Sudan 2012–2013." *Malaria Journal* 16.1 (2017): 363.

Year Four

- Beyl, Celine Zegers, et al. "Impact of a 15-month multi-channel continuous distribution pilot on ITN ownership and access in Eastern Region, Ghana." *Malaria Journal* 17.1 (2018): 124.
- Acosta, Angela et. al. "Design, implementation and evaluation of a school ITN distribution program in Cross River State, Nigeria." *Global Health Science and Practice*, [In press].

## Objective 3. Promote and support country-level implementation

### Indicator 3.1: Number of documents produced to improve implementation of vector management interventions

Year	Target	Actual
1	3	0
2	7	7
3	7	4
4	7	0
5	9	–
Life of project	33	–

**Unit of measure:** Number

**Disaggregation:** None

**Source:** Semiannual report

**Definition:** The number of documents produced to improve implementation of vector management interventions. Documents can include guides, toolkits, case studies, and tools such as NetCALC. Journal articles are counted elsewhere and are not included in this indicator.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** Core

**Notes:**

Target based on previous experience under the NetWorks project and planned Year One core activities.

Year One actuals: VectorWorks drafted the community distribution guide but has not yet finalized it. The project collected tools for the ANC-EPI guide and posted them online but has not yet drafted the insert with new technical content. VectorWorks hired the accountability report consultant at the end of the fiscal year.

Year Two actuals: MIP advocacy strategy; validation report; community distribution guide; net care and repair strategy guide; durability monitoring data collection toolkit. Corrections made to this indicator in Year 3: addition of training materials on access:use indicator to MACRO and analysis plan & do-files for source of nets question.

Year Three actuals: gender training curriculum; online continuous distribution toolkit; accountability report; malaria SBCC indicator reference guide.

Year Four actuals:

In draft: Urban distribution report, NetCALC lite, Misuse toolkit, ITN SBC Guide, Decision tree, Minimum Data Requirements for Mass Distribution Campaigns; AMP toolkit contributions; Operational considerations for the distribution of next-gen nets,

### Indicator 3.2: Number of USAID country missions that contribute funds to the project

Year	Target	Actual
1	6	6
2	7	13
3	6	10
4	7	9
5	6	–
Life of project	32	–

**Unit of measure:** Number

**Disaggregation:** None

**Source:** Modifications to VectorWorks Cooperative Agreement

**Definition:** The number of USAID country missions that obligate funds to VectorWorks per year.

**Frequency of reporting:** Annually

**Reporting format:** Annual report

**Reporting units:** Core

**Notes:**

Missions can be counted multiple times in the life of project (LOP) total. If the mission made the decision to buy into the project, and the AOR provided forward-funding, then that country counts in that year.

Year One actuals: Ghana, Liberia, Mozambique, Nigeria, Tanzania, and Zimbabwe.

Year Two actuals: Angola, Ghana, Liberia, Mozambique, Nigeria, Tanzania, Zimbabwe, Senegal, DRC, Myanmar, Malawi, Kenya, and Uganda

Year Three actuals: Angola, Ghana, Liberia, Mozambique, Nigeria, Tanzania, Zimbabwe, DRC, Kenya, and Guinea.

Year Four actuals: Burma, DRC, Ghana, Guinea, Kenya, Liberia, Mozambique, Nigeria, and Tanzania.

# GHANA PMP

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## I. PMP Purpose, Components and Critical Assumptions

### A. Purpose

This PMP provides a framework for systematically collecting and using data to monitor the activities and achievements of the VectorWorks Project in Ghana. It describes the relationship between project activities and its overall goal to “Increase country capacity to develop, monitor and implement vector management interventions”. It also documents the key specific results that VectorWorks Ghana intends to achieve and the progress it makes towards its targets.

### B. Components

To accomplish these functions, the PMP consists of several components. The results framework describes the pathways linking activities to the project goal. Each activity contributes to the fulfilment of project objectives, which, in turn, contribute to the overall project goal. Documenting improvements along these pathways assists in the attribution of achievements in agreement with objectives to the project’s activities.

Next, the document describes VectorWorks’ activities in each result area and presents a minimum number of selected key indicators most relevant to each area. These indicators were chosen based on several criteria: a) objectivity, b) ability to reflect outcomes and outputs that are central to the project’s work, c) feasibility and cost of data collection, d) data availability when needed and e) usefulness for management decision-making. Indicator reference sheets provide details on their definition, frequency, level of disaggregation, and reporting unit. Lastly, a reporting flow chart illustrates the flow of data and levels of reporting, aggregation and data quality assurance.

This PMP was designed to represent key indicators specific to the VectorWorks Ghana project. In addition, it tracks two standard indicators from the global VectorWorks agreement in the Ghana work plan where those indicators are relevant.

The indicators in this PMP are not intended to provide a comprehensive understanding of how an activity resulted in a change in the agreement objectives or why an activity was not as effective as expected. Rather, indicators provide an indication that a change occurred over time, with discussions in semiannual narrative reports providing more thorough answers on how and why VectorWorks activities achieved their results.

The project will use routine data collection forms and activity tracking spreadsheets to collect data and track activities. These include training summary forms, media monitoring reports, distribution summary forms, activity summary forms and travel and research tracking spreadsheets. Indicator tracking sheets will document how targets were selected and details on progress toward annual targets. These indicator tracking sheets and supporting documents will make it possible to document each indicator’s history and for project managers to review the quality of the data being reported and make recommendations.

## C. Critical Assumptions

The PMP is based on several critical assumptions. Changes to these assumptions will have major implications on the overall direction of the project and the PMP.

- ITN distribution will continue to be a major focus for the Ghana NMCP and USAID/PMI Ghana;
- The national mechanisms for malaria policy implementation through the NMCP will remain stable and largely unchanged;

The VectorWorks Ghana Project chief of party will review this PMP and these assumptions internally and with USAID/PMI Ghana on a semiannual basis to track trends and discuss opportunities for refining program activities and the PMP indicators.

## II. Project Goal and Objectives

The VectorWorks project is a five-year (2014-2019) global malaria prevention project funded by USAID/PMI. The global project goal is to support countries to achieve and maintain high rates of coverage and use of vector management interventions. Specifically, the project is tasked with attaining this goal through activities clustered under three main objectives:

**Objective 1: Policy** - Develop and promote policies at both the international and national levels to encourage sustained, high levels of coverage and use of long-lasting ITNs and/or alternative vector management interventions.

**Objective 2: Monitoring, Evaluation & Operations Research**- Design, conduct and analyze results from monitoring, evaluation, and operational research activities in order to improve current best practices of long-lasting ITNs and/or alternative vector management interventions.

**Objective 3: Implementation** - Promote and support country-level implementation of malaria prevention activities to ensure sustained high level coverage and use of long-lasting ITNs and, as needed, targeted coverage and appropriate use of alternative vector management interventions.

The project is implemented by a consortium led by CCP under Cooperative Agreement # AID-OAA-A-14-00057. Key partners in Ghana include PMI resident advisors, the Ghana Health Service (GHS), the National Malaria Control Program (NMCP), the Ghana Education Service (GES) and its School Health Education Program (SHEP).

In Ghana, our project goal is to “**increase country capacity to develop, monitor and implement vector management interventions.**” This goal incorporates three objectives, consistent with the objectives of the overall global VW cooperative agreement. These objectives are:

1. Strengthen multi-sectoral and stakeholder coordination
2. Support the NMCP to achieve and maintain high levels of ITN coverage
3. Promote the uptake and sustained use of vector management interventions

The PMP has been updated to reflect the targets for Year 4. In this fourth year of the project, activities will focus around sustaining capacity of stakeholders and monitoring health facility-based continuous distribution activities, mass distribution campaign, promoting effective demand, use and care for ITNs through implementing properly structured SBCC activities at the primary school levels. These activities will take place

at the National, Regional, District, health facility and school levels of the Ghana Health Service and Ghana Education Service.

During the year, supportive supervision and monitoring of health facility based continuous distribution will occur in 10 regions. The approach will combine on-site training and supportive supervision and deployment of digital training materials and job aids. SBCC with emphasis on interpersonal communication activities will be implemented in all primary schools in seven regions (175 districts). Mass distribution campaign in all nine regions in the country will be preceded by SBCC activities at the community level on demand, use and care for ITNs.

The obligation for the 4th year of the project is \$1,900,000.

### III. Results Framework

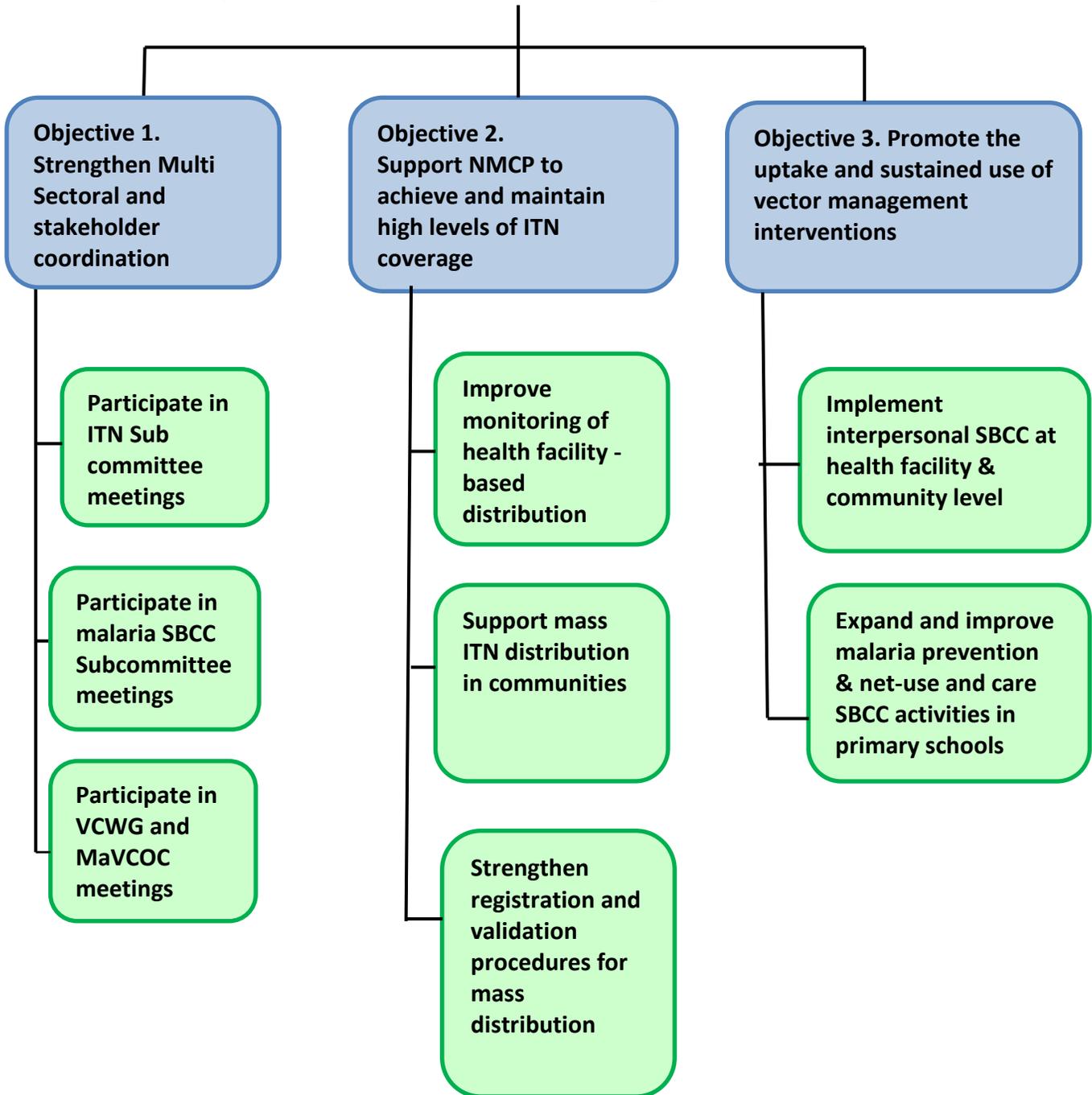
The VectorWorks Ghana results framework describes the pathways linking activities to the long-term project goal of increasing country capacity to develop, implement and monitor vector control interventions. In this framework, each activity contributes to the achievement of project objectives and in effect, the overall project goal. Documentation of improvements along these pathways helps attribute improvements to specific activities leading to the project goal and objectives.

As stated above, the VectorWorks Ghana project will contribute to the project goal through three objectives:

1. Strengthen multi-sectoral and stakeholder coordination
2. Support the NMCP to achieve and maintain high levels of ITN coverage
3. Promote the uptake and sustained use of vector management interventions

While the activities appear to occur in parallel, the three objectives function as an integrated and mutually supportive package. Under Objective 1, VectorWorks Ghana will facilitate and promote improved stakeholder communication and coordination on policy, standards and guidance in line with the National Malaria Control Strategy 2014-2020. Challenges emerging from the field experience under Objective 2 will in turn, inform policy discussions and future modifications. The third objective will ensure wide dissemination and adoption of the NMCP's policies and guidance.

**Project Goal: Increase country capacity to develop, Implement and monitor vector management interventions**



## VectorWorks Ghana Indicator Table and Performance Indicator Reference Sheets (PIRS)

### A. Indicator Table for VectorWorks Ghana (Life of Project)

<i>Focus Area</i>	<i>ID No</i>	<i>Indicator</i>	<i>Data Source</i>	<i>Frequency</i>
<b>Objective GH1: Strengthen multi-sectoral and stakeholder coordination</b>				
<b>GH1</b>	1	Number of Malaria Alerts distributed	Project Activity Report	Semiannual
	2	Number of national LLIN coordination meetings in which VectorWorks participated	Project Activity Report	Semiannual
<b>Objective GH2: Support NMCP to achieve and maintain high levels of ITN coverage and use</b>				
<b>GH2.1 Monitoring Health Facility continuous distribution</b>	1	Number of meetings of the National Monitoring Team	Project Activity Reports	Semiannual
	2	Number of antenatal and immunization clinics visited by a monitoring team	Project Activity Report	Semiannual
	3	Percent of pregnant women who receive a net during their first antenatal care visit	DHIMS	Semiannual
	4	Percent of children who received a net during their last measles vaccine visit	DHIMS	Semiannual
<b>GH2.2 Registration and Validating Mass Distribution data</b>	1	Number of regional planning meetings held for mass distribution	Project Activity Reports	Semiannual
	2	Number of sub-districts supported to validate community population data	Project Activity Reports	Semiannual
	3	Percentage of communities where variances were detected	Project Activity Report	Semiannual
<b>GH2.3 Schools Distribution</b>	1	Number of schools implementing continuous distribution	Project Activity Report	Semiannual
	2	Number of pupils receiving ITNs	Project Activity Report	Semiannual
<b>GH2.CC Cross-cutting</b>	1	Number of people trained in ITN distribution	Training summary forms	Semiannual
	2	Number of ITNs distributed	Transport waybills	Semiannual
<b>GH3: Promote the uptake and sustained use of vector management interventions</b>				
	1	Number of BCC activities to promote ITN use	Project Activity Reports	Semiannual
	2	Number of people exposed to malaria messages	Project Activity Reports	Semiannual

## B. Performance Indicator Reference Sheets

### Objective GH1: Strengthen multi-sectoral and stakeholder coordination

#### Indicator GH1.1: Number of Malaria Alerts distributed

Year	Target	Actual (Total)
1	30,000	20,000
2	N/A	N/A
3	N/A	N/A
4	N/A	N/A
5	TBD	
Life of Project	TBD	

**Unit of Measure:** Number

**Disaggregation:** None

**Source:** Project activity reports

**Definition:** The Ghana Malaria Action Alert is a two-page publication targeting leadership of the health sector at all levels, the education sector, especially the School Health Program, and national and community leaders. It will also be distributed as an email bulletin to various stakeholder institutions to increase coverage. Distribution refers to print and electronic distribution.

**Frequency of reporting:** Semiannual

**Reporting format:** Semiannual & Annual Reports

**Reporting units:** VectorWorks senior technical advisor

**Notes:** The Malaria Action Alert was discontinued after project year one.

**Indicator: GH1.2. Number of national LLIN coordination meetings in which VectorWorks participated**

Year	Target	Actual
1	6	4
2	12	12
3	12	12
4	12	7
5	TBD	
Life of Project	TBD	

**Unit of Measure:** Number

**Disaggregation:** By committee type

Committee Type	Number of Meetings Held in Year 4
ITN Subcommittee meetings	3
MaVCOC meetings	1
Other ITN-related meetings	3
<i>Total</i>	7

**Source:** Project Activity Report

**Definition:** National LLIN coordination meetings include but are not limited to meetings with the LLIN subcommittee, the Malaria SBCC Subcommittee and the Malaria Vector Control Oversight Committee. These three committees are the main coordination mechanisms of interest to VectorWorks. Other potential coordination mechanisms include the USAID COPs meeting and the M&E/ COP (MECOP) meetings and others organized to plan and implement activities for special events such as World Malaria Day etc.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual & Annual Reports

**Reporting units:** VectorWorks chief of party

**Objective GH2: Support NMCP to achieve and maintain high levels of ITN coverage and use**

**Indicator: GH2.1.1 Number of meetings of the National Monitoring Team**

Year	Target	Actual
1	3	3

2	4	4
3	4	4
4	4	2
5	TBD	
Life of Project	TBD	

**Unit of Measure:** Number

**Disaggregation:** None

**Source:** Project activity reports

**Definition:** This indicator tracks the number of times the national monitoring team meets to plan and undertake training of regional teams and to monitor continuous distribution activities. The national monitoring team's main role is to reorient the district-level monitoring teams and to provide supervision and support for health facility monitoring. These activities are tracked by other indicators.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual and Annual Reports

**Reporting units:** VectorWorks chief of party

### Indicator GH2.1.2 Number of antenatal and immunization clinics visited by a monitoring team

Year	Target	Actual
1	800	1,428
2	3,217	3245
3	3300	4,093
4	3300	***
5	TBD	
Life of Project	TBD	

\*\*\* Activity delayed until Q3 & Q4. To be updated in Year 4 annual report.

**Unit of Measure:** Number

**Disaggregation:** Regions and districts

**Source:** Monitoring forms

**Definition:** The number of antenatal care (ANC) and EPI (expanded programme on immunization) clinics visited by monitoring/supervision teams.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual & Annual Reports

**Reporting units:** VectorWorks program officers

**Indicator GH2.1.3: Percent of pregnant women who receive a net during their first ANC visit**

Year	Target	Actual
1	60	50.65
2	80	58.37
3	80	69.90
4	80	89.05*
5	TBD	
Life of Project	TBD	

\* March data yet to be received. To be updated in Year 4 annual report

**Unit of Measure:** Percentage

**Disaggregation:** Regions, districts, and facility type (hospitals, health centres, CHPs)

Region	Coverage
Ashanti	91.18
Brong Ahafo	97.99
Central	83.21
Eastern	98.23
Greater Accra	85.35
Northern	70.95
Upper East	85.97
Upper West	83.67
Volta	97.01
Western	97.00

**Source:** DHIMS

**Definition:**

- Numerator: Number of pregnant women who received a net during their first ANC visit
- Denominator: Number of pregnant women who had a 1<sup>st</sup> ANC visit for the current pregnancy in the reporting period

**Frequency of reporting:** Semiannual

**Reporting format:** Semiannual & Annual Reports

**Reporting units:** VectorWorks senior technical advisor

**Notes:** The March 2018 report has yet to be finalized because DHIMS2 had not released data at the time of reporting. The large number of districts (216) and health facilities in the country made it not feasible to disaggregate data by district level or facility type. We therefore limited disaggregation of data to the regional level.

### Indicator GH2.1.4: Percent of children who received a net during their last measles vaccine visit

Year	Target	Actual
1	70	73.05
2	80	71.44
3	80	76.17
4	80	88.88*
5	TBD	
Life of Project	TBD	

\*Data for Year 4 not yet received. Will be updated in Year 4 annual report

**Unit of Measure:** Percentage

**Disaggregation:** Regions, districts, and facility type (hospitals, health centres, CHPs)

Region	Coverage
Ashanti	90.91
Brong Ahafo	96.96
Central	77.52
Eastern	95.93
Greater Accra	87.82
Northern	74.35
Upper East	88.34
Upper West	84.35
Volta	95.67
Western	97.00

**Source:** DHIMS

**Definition:**

- Numerator: Number of children who received a net during their 18-month measles vaccine visit
- Denominator: Number of children who received their 18-month measles vaccine visit

**Frequency of reporting:** Semiannual**Reporting format:** Semiannual & Annual Reports**Reporting units:** VectorWorks senior technical adviser

**Notes:** The March 2018 report has yet to be finalized because DHIMS2 had not released data at the time of reporting. The large number of districts (216) and health facilities in the country made it not feasible to disaggregate data by district level or facility type. We therefore limited disaggregation of data to the regional level.

**Indicator GH2.2.1: Number of regional planning meetings held for mass distribution**

Year	Target	Actual
1	12	12
2	12	14
3	N/A	N/A
4	10	7
5	N/A	
Life of Project	34	

**Unit of Measure:** Number**Disaggregation:** None**Definition:** Number of regional planning meetings held for mass distribution.**Source:** Activity reports**Frequency of reporting:** Semiannual**Reporting format:** Semiannual & Annual Reports**Reporting units:** VectorWorks program officers

**Indicator GH2.2.2: Number of sub-districts supported to validate community population data**

Year	Target	Actual
1	262	230
2	293	531
3	N/A	N/A
4	N/A	N/A
5	N/A	N/A
Life of Project	555	761

**Unit of Measure:** Number

**Disaggregation:** Regions/districts

**Definition:** Number of sub-districts supported to validate community population data. Support is defined as technical or financial input from VectorWorks.

**Source:** Project activity reports

**Frequency of reporting:** Semiannual

**Reporting format:** Semiannual & Annual Reports

**Reporting units:** VectorWorks program officers

**Notes:** Current process involves electronic validation and does not require training of sub-district officers for data validation.

**Indicator GH2.2.3: Percentage of communities where variances were detected**

Year	Target	Actual
1	25%	30%
2	20%	23.6%
3	N/A	N/A
4	20%	N/A
5	N/A	
Life of Project	20%	

**Unit of Measure:** Percentage

**Disaggregation:** Regions/districts; Rural / urban

**Definition:**

Numerator: Number of rural/urban communities where variances were detected between number of nets allocated from census data and number of nets allocated from registration coupons.

Denominator: Total number of rural/urban communities checked for variance.

**Source:** Project activity reports

**Frequency of reporting:** Semiannual

**Reporting format:** Semiannual & Annual Reports

**Reporting units:** VectorWorks program officers

**Disaggregated Results:** N/A

**Notes:** Current process involves electronic registration, validation and quantification of ITNs using the NetApp and does not require validating projected population data.

### Indicator GH2.3.1: Number of schools implementing continuous distribution

Year	Target	Actual
1	-	-
2	14,000	16,026
3	19,288	23,526
4	N/A	N/A
5	TBD	
Life of Project	TBD	

**Unit of Measure:** Number

**Disaggregation:** Regions/districts; level (such as Lower Primary, Upper Primary).

**Source:** Training forms

**Definition:** The number of primary schools in which nets were distributed.

**Frequency of reporting:** Semiannual

**Reporting format:** Semiannual & Annual Reports

**Reporting units:** VectorWorks program officers

**Notes:** Continuous distribution in schools is not being carried out in Year 4.

### Indicator GH2.3.2: Number of pupils receiving ITNs

Year	Target	Actual
1	--	3,200
2	910,000	936,357
3	1,148,610	1,369,206
4	N/A	N/A
5	TBD	
Life of Project	TBD	

**Unit of Measure:** Number

**Disaggregation:** Regions/districts, gender

**Source:** Training forms

**Definition:** The number of students receiving (a) an ITN from a school distribution program.

**Frequency of reporting:** Semiannual

**Reporting format:** Semiannual & Annual Reports

**Reporting units:** VectorWorks program officers

**Notes:** Continuous distribution in schools is not being carried out in Year 4.

### Indicator GH2.CC.1 Number of people trained in ITN distribution

Year	Health-Facility-Based Distribution		School-Based Distribution		Mass Distribution		Total	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
1	3,200	6,904	n/a	n/a	230	281	3,420	7,185
2	9,984	9,882	1,761	1,939	478	814	12,223	12,635
3	1,500	13,410	9,747	22,649	N/A	N/A	11,246	36,059
4	10,000	***	N/A	N/A	4,703	1,666	14,703	1,666
5	TBD		TBD		TBD		TBD	
Life of project	TBD		TBD		TBD		TBD	

\*\*\* Activity delayed until Q3 & Q4. To be updated in Year 4 annual report.

Number of regional, district, staff trained for mass ITN distribution, by region:

Region	Staff Trained	
Volta	688	
Eastern	978	
Total	1,666	

**Unit of Measure:** Number

**Disaggregation:** Regions/districts; type of personnel, channel and gender.

**Source:** Training forms

**Definition:** The number of people trained with VectorWorks funds in ITN distribution.

**Frequency of reporting:** Semiannual

**Reporting format:** Semiannual & Annual Reports

**Reporting units:** VectorWorks program officers

**Disaggregation:** By region for mass campaign

**Notes:** Health facility training activity delayed until Q3 and Q4. Disaggregation of data for health facility trainings will be included in the annual report. Data is not available as at the time of reporting

CC stands for cross-cutting indicators.

This is a global PMI and VectorWorks indicator. Support for ITN distribution, including trainings, is dependent on many institutions and factors beyond the project such as Global Fund for AIDS, Tuberculosis and Malaria (GFATM) and UK Department for International Development (DFID)

### Indicator GH.2.CC.2: Number of ITNs distributed

Year	Health-Facility-Based Distribution		School-Based Distribution		Mass Distribution		Total	
	Target	Actual	Target	Actual	Target	Actual	Target	Actual
1	557,500	557,500	N/A	N/A	642,500	2,818,842	1.2 million	3,376,342
2	700,700	874,905	910,000	936,357	7,189,300	8,641,087	8.8 million	10,452,349
3	1,527,427	1,312,113	1,148,610	1,369,206	N/A	N/A	2,676,037	2,536,957
4	1,200,000	*743,463	N/A	N/A	14,299,688	**216,903	15,499,688	960,366
5	TBD		TBD		TBD		TBD	
Life of project	TBD		TBD		TBD		TBD	

\*March 2018 Data yet to be received from DHIMS

\*\* Numbers for the pilot distribution

**Unit of measure:** Number

**Disaggregation:** By region, district, and channel (e.g., ANC or EPI, point mass distribution, school distribution)

Region	Health-Facility-Based Distribution	School-Based Distribution	Mass Distribution	Total
Ashanti	133,904	N/A	N/A	133,904
Brong Ahafo	81,640	N/A	N/A	81,640
Central	61,713	N/A	N/A	61,713
Eastern	78,408	N/A	122,792**	201,200
Greater Accra	121,279	N/A	N/A	121,279
Northern	80,944	N/A	N/A	80,944
Upper East	24,928	N/A	N/A	24,928
Upper West	18,778	N/A	N/A	18,778
Volta	63,359	N/A	94,111**	157,470
Western	78,510	N/A	N/A	78,510

\*\* Numbers for the pilot distribution

**Source:** Waybills, distribution reports, program officer reports

**Definition:** The number of ITNs distributed through mass, continuous, or routine distribution channels for which VectorWorks provided facilitation services.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual and Annual reports

**Reporting units:** VectorWorks program officers

**Notes:** The large number of districts (216) and health facilities in the country made it not feasible to disaggregate data to the district level. We therefore limited disaggregation of data to the regional level

CC stands for cross-cutting indicators.

March 2018 data yet to be received from DHIMS

This is a global PMI and VectorWorks indicator. Numbers of nets beyond Year Four will depend on donor and Government of Ghana (GoG) orders, so cannot be estimated at this point.

**Objective GH3: Promote the uptake and sustained use of vector management interventions**

**Indicator GH.3.1 Number of behavior change communication activities to promote ITN use**

Year	Target	Actual
1	735	3,912
2	1785	1895
3	2800	7,567
4	3200	5,595
5	TBD	
Life of Project	TBD	

**Unit of Measure:** Number

**Disaggregation:** Regions/District; Rural/urban; Channel (community mobilization, radio, etc.)

Region	Number of School BCC Activities in Year 4
Brong Ahafo	1,420
Ashanti	1,822
Western	1,127
Central	1,226
<i>Total</i>	<i>5,595</i>

**Source:** Project activity reports

**Definition:** The number of community mobilization activities and mass media airings or postings funded by VectorWorks. Community mobilization activities include community meetings, home visits, etc.

**Frequency of reporting:** Semiannual

**Reporting format:** Semiannual & Annual Reports

**Reporting units:** VectorWorks program officers

**Notes:** Number of SBCC activities is a global PMI and VectorWorks indicator. In Year Four, SBCC activities are focused on interpersonal communications at schools and health facilities.

### GH.3.2 Number of people exposed to malaria messages

Year	Target	Actual
1	2,040,564	3,014,800
2	2,247,69	3104580
3	3,321,504	3,557,874
4	3,557,874	743,463*
5	TBD	
Life of Project	TBD	

\*To be updated in year 4 annual report

**Unit of Measure:** Number

**Disaggregation:** Region/district, channel

Region	Number of People Exposed to Malaria Messages through Health Facility Channel
Ashanti	133,904
Brong Ahafo	81,640
Central	61,713
Eastern	78,408
Greater Accra	121,279
Northern	80,944
Upper East	24,928
Upper West	18,778
Volta	63,359
Western	78,510
<b>Total</b>	<b>743,463</b>

**Source:** SBCC activity reports

**Definition:** The number of people who were exposed to messages on ITN use through mass media or community mobilization activities. This indicator does not capture the numbers of patients and caregivers who received interpersonal counseling at health facilities. Community mobilization activities include community meetings, home visits, and so on.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual & Annual Reports

**Reporting units:** VectorWorks program officers

**Notes:** The large number of districts (216) in the country made it not feasible to disaggregate data to the district level. We therefore limited disaggregation of data to the regional level.

## IV. Reporting and Data Use

To implement the VectorWorks Ghana project, five program officers (PO) will be responsible for working closely with the Ghana Health Service (National Malaria Control Program-NMCP) and Ministry of Education counterparts at regional, district and sub-district levels. The program officers submit monthly reports to the senior technical advisor, who, in consultation with the monitoring and evaluation manager checks the reports for completeness and accuracy, discuss, and provide feedback to the program officers. These reports are then be forwarded with indicator tally sheets to the chief of party for final review and submission to VectorWorks headquarters.



VectorWorks leadership periodically reviews progress against targets to advise program officers, the monitoring and evaluation manager, the senior technical advisor, and the chief of party. VectorWorks submits PMP reports to PMI along with Semiannual and annual project reports.

Data will be presented using the types of disaggregation outlined above to allow for comparisons over time, between regions, districts, and facility types and sex. This analysis will be part of the semiannual reporting process. A presentation/team review of the analysis will also be part of the annual work plan process. During annual work planning meetings, VectorWorks will review progress against targets and reflect on challenges faced, lessons learned and recommendations. This combination of quantitative and qualitative reflections will be used to shape future years' activities and targets.

# LIBERIA PMP

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## Introduction

### Purpose

This PMP provides a framework for systematically collecting and using data to monitor the activities and achievements of VectorWorks Liberia. It describes the relationship between project activities and its overall goal to “support NMCP to achieve and maintain high levels of coverage and use of long-lasting ITNs”. It also documents the key specific results that VectorWorks Liberia intends to achieve and the progress it makes towards its targets.

### Components

To accomplish these functions, the PMP consists of several components. The results framework describes the pathways linking activities to the project goal. Each activity contributes to the fulfilment of project objectives, which, in turn, contribute to the overall project goal. Documenting improvements along these pathways assists in the attribution of achievements in agreement with objectives to the project’s activities.

Next, the document describes VectorWorks’ activities in each result area and presents a minimum number of selected key indicators most relevant to each area. These indicators were chosen based on several criteria: a) objectivity, b) ability to reflect outcomes and outputs that are central to the project’s work, c) feasibility and cost of data collection, d) data availability when needed, and e) usefulness for management decision-making. Indicator reference sheets provide details on their definition, frequency, level of disaggregation, and reporting unit. Lastly, a reporting flow chart illustrates the flow of data and levels of reporting, aggregation and data quality assurance.

This PMP was designed to represent key indicators specific to the VectorWorks project in Liberia while using indicators standard to other VectorWorks countries and core where relevant. Targets are defined only for Year 4 and 5, since the PMP was developed for Year 4.

The indicators in this PMP are not intended to provide a comprehensive understanding of how an activity resulted in a change in the agreement objectives or why an activity was not as effective as expected. Rather, indicators provide an indication that a change occurred over time, with discussions in semiannual narrative reports providing more thorough answers on how and why VectorWorks activities achieved their results.

The project will use routine data collection forms and activity tracking spreadsheets to collect data and track activities. These include training summary forms, media monitoring reports, distribution summary forms, activity summary forms, and travel and research tracking spreadsheets. Indicator tracking sheets will document how targets were selected and details on progress toward annual targets. These indicator tracking sheets and supporting documents will make it possible to document each indicator’s history and for project managers to review the quality of the data being reported and make recommendations.

### Critical Assumptions

The PMP is based on several critical assumptions. Changes to these assumptions will have major implications on the overall direction of the project and the PMP.

- ITN distribution will continue to be a major focus for the Liberia NMCP and USAID/PMI Liberia;

- The national mechanisms for malaria policy implementation through the NMCP will remain stable and largely unchanged;

VectorWorks will review this PMP and these assumptions internally and with USAID/PMI Liberia on a semiannual basis to track trends and discuss opportunities for refining program activities and the PMP indicators.

## Project Goal and Objectives

The VectorWorks Project is a five-year (2014-2019) global project funded by USAID/PMI. The global project goal is to support countries to achieve and maintain high rates of coverage and use of vector management interventions. Specifically, the project is tasked with attaining this goal through activities clustered under three main objectives:

**Objective 1: Policy** - Develop and promote policies at both the international and national levels to encourage sustained, high levels of coverage and use of long-lasting ITNs and/or alternative vector management interventions.

**Objective 2: Monitoring, Evaluation & Operations Research**- Design, conduct and analyze results from monitoring, evaluation, and operational research activities in order to improve current best practices of long-lasting ITNs and/or alternative vector management interventions.

**Objective 3: Implementation** - Promote and support country-level implementation of malaria prevention activities to ensure sustained high level coverage and use of long-lasting ITNs and, as needed, targeted coverage and appropriate use of alternative vector management interventions.

The project is implemented by a consortium led by the CCP under Cooperative Agreement # AID-OAA-A-14-00057. Other partners include Tropical Health LLP, Swiss Tropical and Public Health Institute, PSI, Mennonite Economic Development Associates and CAMRE. The project will be conducted in partnership with NMCPs as well as PMI Resident Advisors and other malaria partners in each country.

In Liberia, VectorWorks supports the government in the distribution of LLINs through ANC and ID. VectorWorks has also provided technical support to the mass distribution of ITNs.

## Results Framework

The VectorWorks Liberia project results framework describes the pathways linking activities to the long-term project goal of increasing country capacity to develop, implement and monitor vector management interventions. In this framework, each activity contributes to the fulfilment of project objectives, in turn, contributing to the overall project goal. Documenting improvements along these pathways assists in the attribution of improvements in regards to the project goal and project objectives to the activities.

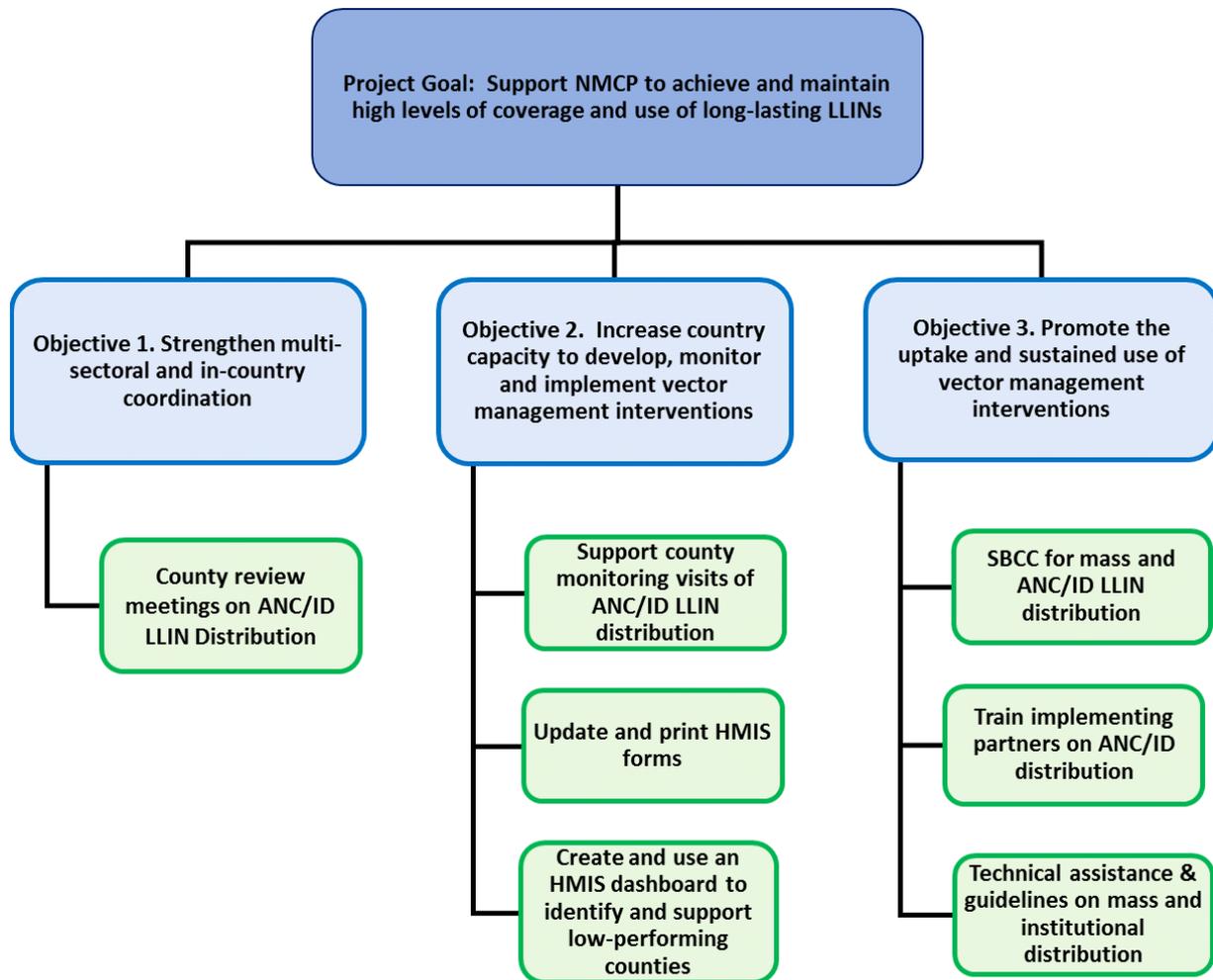
As stated above, the VectorWorks project in Liberia will contribute to the project goal through three objectives:

- Strengthen multi-sectoral and stakeholder coordination
- Increase country capacity to develop, monitor and implement vector management interventions
- Improve best practices through monitoring, evaluation and operations research

While the activities appear to occur in parallel, the three objectives function as an integrated and mutually supportive package. Under Objective 1, VectorWorks Liberia will facilitate and promote improved

stakeholder communication and coordination on policy, standards, and guidance in line with the National Malaria Strategic Plan 2016-2021. Challenges emerging from the field experience under Objective 2 will in return, inform the policy discussions and future modifications. The third objective will inform Objective 1 and 2 as they shed insight on potential scale up and/or modifications in future years.

**Figure 1. Results Framework**



## Indicator Table

INDICATOR	DEFINITION	SOURCE	FREQUENCY
<b>Objective 1. Strengthen multi-sectoral and in-country coordination</b>			
1.1 Number of planning and review meetings held with NMCP and counties	The number of review and planning meetings with NMCP and counties. This serves as a proxy for the extent of government and VectorWorks coordination.	Meeting reports	Semiannually
<b>Objective 2. Increase country capacity to develop, monitor and implement vector management interventions</b>			
2.1 Number of ANC and ID clinics visited by a monitoring team	The number of antenatal care and institutional delivery clinics/wards visited by a monitoring team.	Monitoring reports	Semiannually
2.2 Number of HMIS forms printed, by type	The number of HMIS forms printed, disaggregated by type. Types include: Big belly cards and postnatal care registers.	Delivery notes	Semiannually
2.3 Number of ANC/ID LLIN distribution reports reviewed with counties and NMCPs	Number of ANC/ID LLIN distribution reports reviewed with counties and NMCPs. Reports include graphical presentations, developed manually or automatically (dashboard) using HMIS data.	Activity reports	Semiannually
2.4 Percentage of pregnant women who received an LLIN during any antenatal care visit.	Numerator: The number of pregnant women who received an LLIN during their any ANC visit Denominator: The number of pregnant women who attended at least one ANC visits.	HMIS data	Semiannually
2.5 Percentage of women who received a net during institutional delivery	Numerator: The number of women who received an LLIN during an institutional delivery Denominator: The number of pregnant women who delivered a child at a health facility.	HMIS data	Semiannually
<b>Objective 3. Promote the uptake and sustained use of vector management interventions</b>			
3.1 Number of people trained in ITN distribution	This is a global VectorWorks and PMI indicator. This is defined as the number of people trained with VectorWorks funds in ITN distribution.	Training reports	Semiannual
3.2 Number of documents produced to improve vector management interventions	The number of documents produced to improve implementation of vector management interventions. Documents will include guides, toolkits, case studies, job aids and tools. Journal articles are counted elsewhere and are not included in this indicator.	Semiannual report	Semiannual
3.3 Number of BCC activities to promote ITN use	This indicator measures the number of people who have received program services, or have participated in community mobilization activities, or	Activity reports	Semiannual

\*Outcome-level indicators such as ITN ownership, household access, population access and equity will be assessed by an evaluation, if/when one is planned.

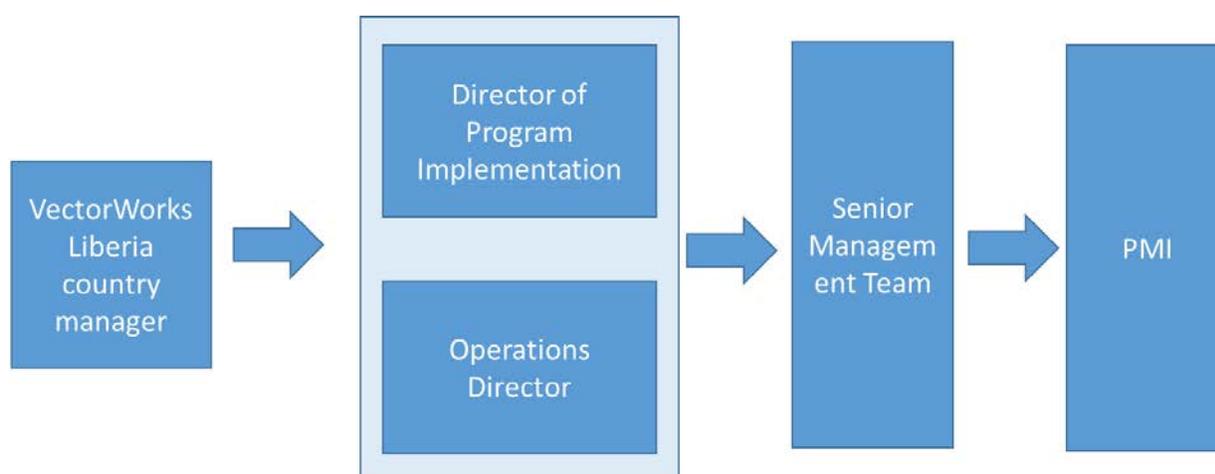
## Reporting and Data Use

VectorWorks has several programmatic reporting requirements:

- Report on quarterly indicators into the database.
- Submit semiannual reports to PMI. These are due 45 days after the semiannual period.

The following reporting flow chart (Figure 2) illustrates the flow of data and levels of reporting, aggregation, and data quality assurance.

**Figure 2. Reporting flow chart**



The VectorWorks Liberia LLIN Program Manager and Program Officer will complete activity and semiannual reports. The backstopping team, comprised of the VectorWorks Senior Program Officer and Field Operational Director will review the reports and verify the data reported by cross-checking primary data sources and summary forms. Team members on technical assistance visits will also check on data quality, reporting frequency, and completeness during their visits. Semiannual and other PMI deliverables receive final review by the senior management team before submission to PMI. The VectorWorks country program manager will archive supporting documents and data sets and provide them upon requests to confirm the reported results.

VectorWorks will periodically review progress against targets to advise current implementation and annual work plans. Data will be presented using the types of disaggregation mentioned above to allow for comparisons over time, between regions, districts, facility types, and gender. This analysis will be part of the semiannual reporting process. A presentation/team review of the analysis will also be part of the annual work plan process. During annual planning meetings, VectorWorks will review progress against targets and reflect on challenges faced, lessons learned, and recommendations.

## Research and Evaluation Plan

There are no evaluation plans at this time.

## Performance Indicator Reference Sheets (PIRS)

### Objective 1: Develop and promote policies at international and national levels

#### Indicator 1.1: Number of planning and review meetings held with National Malaria Control Program and Counties

Year	Targets	Actuals
1	--	--
2	--	--
3	15	12
4	9	6
5	TBD	TBD
Life of Project	TBD	TBD

**Unit of Measure:** Number

**Disaggregation:** None.

**Source:** Meeting reports

**Definition:** The number of review and planning meetings with NMCP and counties. This serves as a proxy for the extent of government and VectorWorks coordination.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** VectorWorks Liberia LLIN Program Manager

**Notes:** Six meetings; two review meetings with counties and four planning meetings with NMCP.

## Objective 2. Increase country capacity to develop, monitor and implement vector management interventions

### Indicator 2.1: Number of ANC and ID clinics visited by a monitoring team

Year	ANC clinics only		Facilities with both ANC and ID clinics	
	Targets	Actuals	Targets	Actuals
1	--	--	--	--
2	--	--	--	--
3	--	142	142	325
4	105	NA	105	107
5	TBD	TBD	TBD	TBD
Life of Project	TBD	TBD	TBD	TBD

#### Actuals, by County

County	Year 3	Year 4	Year 5
Bomi	6 HFs	Monitoring (6 HF to be visited)	TBD
Bong	10HFs	Monitoring (8 HF to be visited)	TBD
Gbarpolu	6HFs	Monitoring (6 HF to be visited)	TBD
Grand Bassa	6HFs	Monitoring (8 HF to be visited)	TBD
Cape Mount	6HFs	Monitoring (6 HF to be visited)	TBD
Grand Gedeh	3HFs	Monitoring (5 HFs to be visited)	TBD
Grand Kru	3HFs	Monitoring (6 HF to be visited)	TBD
Lofa	--	Monitoring (8 HF to be visited)	TBD
Margibi	24HFs	Monitoring (6 HF to be visited)	TBD
Maryland	3HFs	Monitoring (6 HF to be visited)	TBD
Montserrado	59HFs	Monitoring (10 HF to be visited)	TBD
Nimba	13HFs	Monitoring (8 HF to be visited)	TBD
River Gee	3HFs	Monitoring (6 HF to be visited)	TBD
River Cess	--	County Review/Monitoring (8 HFs to be visited)	TBD

County	Year 3	Year 4	Year 5
Sinoe	--	County Review/Monitoring (8 HF's to be visited)	TBD

**Unit of Measure:** Number

**Disaggregation:** County level

**Source:** Monitoring reports

**Definition:** The number of antenatal care and institutional delivery clinics/wards visited by a monitoring team.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannually

**Reporting units:** VectorWorks Liberia LLIN Program Manager

**Notes:**

Year Four: The national monitoring team, including VectorWorks, NMCP, FHD, SCMU, and FHD visited 107 ANC and ID clinics this year. Due to a stop work order, Year Four monitoring activities didn't start until February.

## Indicator 2.2: Number of HMIS forms printed, by type

Year	Big belly cards		Postnatal care registers	
	Target	Actual	Target	Actual
1	--	--	--	--
2	--	--	--	--
3	45,000	45,000	150	600
4	--	--	--	--
5	--	--	--	--
Life of Project	45,000	45,000	150	600

**Unit of Measure:** Number

**Disaggregation:** Type of HMIS form.

**Source:** Delivery notes

**Definition:** The number of HMIS forms printed.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** VectorWorks Liberia Program Manager

**Notes:**

**Indicator 2.3: Number of ANC/ID LLIN distribution reports reviewed with counties and NMCPs.**

Year	Target	Actual
1	--	--
2	--	--
3	15	12
4	15	4
5	TBD	TBD
Life of Project	TBD	TBD

**Unit of Measure:** Number

**Disaggregation:** None. County-level reports will provide information on the performance of the county and individual facilities.

**Source:** HMIS

**Definition:** Year Four semiannual: Bomi, Montserrado, Sinoe and River Cess.

Year Four annual (as of May 15, 2018): Grand Kru, Maryland, River Gee, and Grand Gedeh counties were completed in April 2018. The review meetings are quarterly.

**Frequency of reporting (of this indicator, not the ANC/ID distribution reports):** Semiannual

**Reporting format:** Semiannual report

**Reporting units:** VectorWorks Liberia LLIN Program Manager

**Notes:**

Year Four semiannual: Bomi, Montserrado, Sinoe and River Cess.

Year Four annual (as of May 15, 2018): Grand Kru, Maryland, River Gee, and Grand Gedeh counties were completed in April 2018.

**Indicator 2.4: Percentage of pregnant women who received an LLIN during any ANC visit.**

Year	Target	Actual
1	--	--
2	--	26%
3	--	32%
4	80%	18% (to date with missing data)
5	80%	TBD
Life of Project	80%	TBD

Year 4 and 5 actuals, by County (Numerator, Denominator, Percent)

County	Year 2	Year 3	Year 4	Year 5
Bomi	14813	10,841	0	TBD
	2989	3555	1726	
	<b>20%</b>	<b>32%</b>		
Bong	58856	51,085	531	TBD
	12898	13,298	6420	
	<b>22%</b>	<b>26%</b>		
Gbarpolu	8255	6417	0	TBD
	2869	2332	1131	
	<b>35%</b>	<b>36%</b>		
Grand Bassa	32962	26426	14	TBD
	9343	7917	3042	
	<b>28%</b>	<b>30%</b>		
Cape Mount	18206	12755	0	TBD
	4382	4447	2285	
	<b>24%</b>	<b>35%</b>		
Grand Gedeh	18445	13491	215	TBD
	4131	3921	1683	
	<b>22%</b>	<b>29%</b>		
Grand Kru	8225	6853	281	TBD
	2262	2400	1044	
	<b>28%</b>	<b>35%</b>		
Lofa	37609	31627	860	TBD
	9047	10164	4980	
	<b>24%</b>	<b>32%</b>		
Margibi	28438	20650	0	TBD
	7781	6907	3321	
	<b>27%</b>	<b>33%</b>		
Maryland	17917	12536	20	TBD
	5015	4558	1817	
	<b>30%</b>	<b>36%</b>		
Montserrado	158361	120,649	172	TBD
	24130	37,785	13908	
	<b>15%</b>	<b>31%</b>		
Nimba	78790	69920	1535	TBD

County	Year 2	Year 3	Year 4	Year 5
	13380 <b>17%</b>	22731 <b>33%</b>	10484	
River Gee	6085 1933 <b>32%</b>	4327 1662 <b>38%</b>	0 838	TBD
River Cess	10639 3505 <b>33%</b>	9542 2129 <b>22%</b>	2855 934	TBD
Sinoe	12322 3407 <b>28%</b>	9677 3162 <b>33%</b>	0 1620	TBD

**Unit of Measure:** Percent

**Disaggregation:** County

**Source:** HMIS reports

**Definition:** This indicator is to understand the overall performance of health facility ITN distribution. Since VectorWorks is not directly distributing ITNs to health facilities, the project has limited ability to influence this indicator, but since VectorWorks conducts monitoring visits, tracking this indicator is feasible. This is a standard indicator across VectorWorks countries.

Numerator: The number of pregnant women who received an LLIN during any ANC visit.

Denominator: The number of pregnant women who received at least one ANC visit during the reporting period.

**Frequency of reporting:** Semiannual

**Reporting format:** Semiannual report

**Reporting units:** VectorWorks Liberia LLIN Program Manager

**Notes:** From the data VectorWorks has from the monitoring visits and the MOH reports, about 18% of pregnant women received an LLIN during any ANC visit. However, this is not an accurate percentage; out of 17 clinics VectorWorks visited, three had no LLINs in the health facility at the time of monitoring. VectorWorks is waiting for the data from the M&E officer at NMCP to complete the Year 4 column.

**Indicator 2.5: Percentage of women who received an LLIN during institutional delivery.**

Year	Target	Actual
1	--	--
2	--	--
3	--	--
4	80%	TBD (waiting for NMCP data)
5	80%	TBD
Life of Project	80%	TBD

Actuals by county: Women who received a net at ID. When we receive the data for the denominators (number of women who attended ID), the percentages will be calculated.

County	Year 2	Year 3	Year 4	Year 5
Bomi	2844	2046	1344	TBD
Bong	14745	12,483	8311	TBD
Gbarpolu	1629	1405	932	TBD
Grand Bassa	6363	6043	3519	TBD
Cape Mount	3276	2186	1294	TBD
Grand Gedeh	3463	3137	1913	TBD
Grand Kru	1293	1458	971	TBD
Lofa	9083	8160	5280	TBD
Margibi	5545	4884	2937	TBD
Maryland	3493	2953	1712	TBD
Montserrado	18560	16356	8474	TBD
Nimba	18558	17600	11718	TBD
River Gee	1389	1082	764	TBD
River Cess	1971	1899	851	TBD
Sinoe	3255	2771	2039	TBD

**Unit of Measure:** Percent

**Disaggregation:** County

**Source:** HMIS reports

**Definition:** This is to understand the overall performance of health facility ITN distribution. Since VectorWorks is not directly distributing ITNs to health facilities, the project has limited ability to influence this indicator, but since VectorWorks conducts monitoring visits, tracking this indicator is feasible.

Numerator: The number of pregnant women who received an LLIN during ID.

Denominator: The number of pregnant women who delivered a child at a health facility.

**Frequency of reporting:** Semiannual

**Reporting format:** Semiannual report

**Reporting units:** VectorWorks Liberia LLIN Program Manager

**Notes:** Delays in getting the data from the NMCP M&E officer. The missing data includes number of women who delivered at the institution.

## Objective 3: Promote the uptake and sustained use of vector management interventions

### Indicator 3.1: Number of people trained in ITN distribution

Year	Target	Actual
1	--	--
2	--	2,388
3	--	1,288
4	700	238
5	TBD	TBD
Life of Project	--	TBD

**Unit of Measure:** Number

**Disaggregation:** None

**Source:** Training reports

**Definition:** This is a global VectorWorks and PMI indicator. This is defined as the number of people trained with VectorWorks funds in ITN distribution.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** VectorWorks Liberia LLIN Program Manager

**Notes:** During review meetings, and mentoring and coaching at health facilities while monitoring VectorWorks/NMCP/FHD/SCMU trained 238 people in ITN distribution.

### Indicator 3.2: Number of documents produced to improve vector management interventions.

Year	Target	Actual
1	--	--
2	--	2
3	--	3
4	3	0
5	TBD	TBD
Life of Project	TBD	TBD

**Unit of Measure:** Number

**Disaggregation:** None

**Source:** Activity reports

**Definition:** The number of documents produced to improve implementation of vector management interventions. Documents can include guides, toolkits, case studies, job aids, and tools. Journal articles are counted elsewhere and are not included in this indicator.

**Frequency of reporting:** Semiannual

**Reporting format:** Semiannual report

**Reporting units:** VectorWorks Liberia LLIN Program Manager

**Notes:** Year Four: the target includes revisions to the ANC/ID checklist, reporting tool, and ITN delivery to institutions quantification tools. No documents were produced during the first half of the year. The NMT continues to use the existing checklist for monitoring. So far 17 health facilities have been monitored and 17 checklists were printed.

### **Indicator 3.3: Number of SBCC materials produced, by type.**

<b>Year</b>	<b>Target</b>	<b>Actual</b>
1	--	--
2	--	2
3	2	2
4	5	3
5	TBD	TBD
Life of Project	TBD	TBD

**Unit of Measure:** Number

**Disaggregation:** None

**Source:** Activity reports

**Definition:** Number of SBCC materials produced, by type. Each new communication material, such as a radio spot, video, poster, or educational brochure, counts as a “created” message. Materials should demonstrate and provide information about malaria prevention and treatment strategies. This indicator is one of the new indicators in the RBM SBCC Malaria Indicator Reference Guide.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting units:** VectorWorks Liberia LLIN Program Manager

**Notes:**

Year 2: job aids, big belly cards

Year 3: Job aid (2500) that were printed to be distributed to HFs in the country. Vector Works and NMCP are using the monitoring checklist to track ANC and ID activities at the HF level.

Year 4: 1) VectorWorks created a tracking tool used during the Advocacy Meetings for the Mass Campaign. 2) VectorWorks produced a monitoring tool used by health promotion focal persons for monitoring of universal coverage campaign (UCC) messages aired at various radio spots before, during, and after the mass campaign. 3) VectorWorks produced a radio spot for the UCC.

# TANZANIA PMP

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## PMP Purpose, Components and Critical Assumptions

### Purpose

This Project Monitoring Plan (PMP) provides a framework for systematically collecting and using data to monitor the activities and achievements of the VectorWorks Project in Tanzania. It describes the relationship between project activities and its overall goal to “support NMCP to achieve and maintain high levels of coverage and use of long-lasting ITNs”. It also documents the key specific results that VectorWorks Tanzania intends to achieve and the progress it makes towards its targets.

### Components

To accomplish these functions, the PMP consists of several components. The results framework describes the pathways linking activities to the project goal. Each activity contributes to the fulfilment of project objectives, which, in turn, contribute to the overall project goal. Documenting improvements along these pathways assists in the attribution of achievements in agreement with objectives to the project’s activities.

Next, the document describes VectorWorks’ activities in each result area and presents a minimum number of selected key indicators most relevant to each area. These indicators were chosen based on several criteria: a) objectivity, b) ability to reflect outcomes and outputs that are central to the project’s work, c) feasibility and cost of data collection, d) data availability when needed and e) usefulness for management decision-making. Indicator reference sheets provide details on their definition, frequency, level of disaggregation, and reporting unit. Lastly, a reporting flow chart illustrates the flow of data and levels of reporting, aggregation and data quality assurance.

This PMP was designed to represent key indicators specific to the VectorWorks Tanzania project. In addition, it tracks two standard indicators from the global VectorWorks agreement in the Tanzania work plan where those indicators are relevant.

The indicators in this PMP are not intended to provide a comprehensive understanding of how an activity resulted in a change in the agreement objectives or why an activity was not as effective as expected. Rather, indicators provide an indication that a change occurred over time, with discussions in semiannual narrative reports providing more thorough answers on how and why VectorWorks activities achieved their results.

The project will use routine data collection forms and activity tracking spreadsheets to collect data and track activities. These include training summary forms, media monitoring reports, distribution summary forms, activity summary forms and travel and research tracking spreadsheets. Indicator reference sheets will document how targets were selected and details on progress toward annual targets. These indicator reference sheets and supporting documents will make it possible to document each indicator’s history and for project managers to review the quality of the data being reported and make recommendations.

## Critical Assumptions

The PMP is based on several critical assumptions. Changes to these assumptions will have major implications on the overall direction of the project and the PMP.

- Insecticide-treated net (ITN) distribution will continue to be a major focus for the Tanzania National Malaria Control Program (NMCP) and the United States Agency for International Development/President's Malaria Initiative (PMI) Tanzania;
- The national mechanisms for malaria policy implementation through the NMCP will remain stable and largely unchanged;

VectorWorks will review this PMP and these assumptions internally and with USAID/PMI Tanzania on an annual basis to track trends and discuss opportunities for refining program activities and the PMP indicators.

## Project Goal and Objectives

The VectorWorks (VW) Project is a five-year (2014-2019) global project funded by United States Agency for International Development's President's Malaria Initiative (USAID/PMI). The global project goal is to support countries to achieve and maintain high rates of coverage and use of vector management interventions. Specifically, the project is tasked with attaining this goal through activities clustered under three main objectives:

**Objective 1: Policy** - Develop and promote policies at both the international and national levels to encourage sustained, high levels of coverage and use of insecticide treated nets (ITNs) and/or alternative vector management interventions.

**Objective 2: Monitoring, Evaluation & Operations Research**- Design, conduct and analyze results from monitoring, evaluation, and operational research activities in order to improve current best practices of long-lasting ITNs and/or alternative vector management interventions.

**Objective 3: Implementation** - Promote and support country-level implementation of malaria prevention activities to ensure sustained high level coverage and use of long-lasting ITNs and, as needed, targeted coverage and appropriate use of alternative vector management interventions.

The project is implemented by a consortium led by the CCP under Cooperative Agreement # AID-OAA-A-14-00057. Other partners include Tropical Health LLP, Swiss Tropical and Public Health Institute, PSI, Mennonite Economic Development Associates and the CAMRE. The project will be conducted in partnership with NMCPs as well as PMI Resident Advisors and other malaria partners in each country.

In Tanzania, VectorWorks advances the three project objectives through several activities. VectorWorks supports the government in the implementation of the school-based ITN distribution pilot, locally referred to as the SNP. In the first year of the project, SNP operated in the three Southern regions (Lindi, Mtwara and Ruvuma) and in the second year the project expanded to the four Lake Zone regions (Geita, Kagera, Mara, and Mwanza). Additionally, in Year 2 VectorWorks developed a strategy and for routine distribution of ITNs through ANC and EPI services, and began phased-in implementation starting in the regions of Mtwara and Mwanza.

In Year three 2016/2017, VectorWorks supported the implementation of the fifth round of school-based ITN distribution, locally referred to as the SNP, in fourteen regions distributing over 3 million ITNs with collaborative efforts from central level ministries especially PO-RALG and MoHCDGEC through the NMCP and local regional/district council officials. The vision of this fifth round of school-based ITN distribution was to implement a much lean and cost effective SNP in order to ensure a sustainable model for future application is demonstrated.

VectorWorks expanded distributing ITNs to pregnant women attending ANC services and infants attending EPI services from initial two pilot regions (Mtwara and Mwanza) to more seven regions (Geita, Kagera, Kigoma, Lindi, Mara, and Ruvuma, and Simiyu). Since the beginning of year 3, a total of 1.1 million ITNs have been distributed to health facilities in the 9 regions and 681,740 has been issued to pregnant women.

In order to ensure RCH based ITNs distribution in sustained without stock out, VectorWorks has worked to build the capacity of the Central Medical Stores Department (MSD). While the process of building MSD capacity and transitioning LLINs storage and distribution to MSD has been slow, in year 3 VectorWorks has managed to transition 2 districts (Nyamagana and Sengerema) in Mwanza region to allow MSD get the needed experience in LLINs distribution. MSD has also picked up storage of LLINs for Tabora and Kigoma region. VectorWorks will use lessons from Mwanza LLINs distribution and Tabora LLINs storage to further build MSD capacity and transition more regions.

In year 3, VectorWorks designed and implemented activities that use existing local and central government systems and staff. VectorWorks also worked with government of Tanzania counterparts design both SNP and RCH distribution models that seek to develop a less costly, more replicable, and more sustainable model for ITN distribution through schools and clinics for future scale-up. For example, in year 3 VectorWorks revised SNP distribution model where using the centralized PO-RALG BEMIS system is doing no further student registration. VectorWorks and PORALG integrated supervision for LLINs distribution in the existing PORALG data team at the regional and district level. ITN distribution has also been integrated in the BEMIS system; this means there is no training of more than 1,500 ward level education coordinators in the 14 regions. These changes have made SNP integrated in the PORALG system and increased implementation efficiency and significantly cut down costs.

Other activities for VectorWorks in Year 3 included support to the NMCP in finishing a comprehensive ITN distribution strategy, coordination with stakeholders in ITN policy, and technical assistance for continuous distribution strategies in Zanzibar. |

In the first half of Year Four, VectorWorks Tanzania continued to support the Government of Tanzania's (GoT) shift from mass campaigns of ITNs to continuous distribution. At the start of Year Four, VectorWorks Tanzania completed SNP5, distributing more than two million ITNs through primary schools. VectorWorks Tanzania has begun planning and coordinating at the national and sub-national level for SNP6. In addition to SNP, VectorWorks Tanzania supported distribution of ITNs through health facilities in mainland Tanzania and Zanzibar. VectorWorks Tanzania supported the initial smart push of over one and a half million ITNs to seventeen PMI and Global Fund-supported regions. VectorWorks has supported distribution of ITNs to all 26 regions, and Zanzibar is preparing to launch community and health facility-based distribution supported by VectorWorks.

## Results Framework

The VectorWorks Tanzania results framework describes the pathways that link specific project activities to the long-term goals described by the project objectives above. In this framework, each activity contributes to the fulfilment of project objectives, in turn, contributing to the overall project goal. Documenting improvements along these pathways assists in the attribution of activities toward reaching the project goal and objectives.

While the activities appear to occur in parallel, the three VectorWorks objectives function as an integrated and mutually supportive package. Under Objective 1, VectorWorks Tanzania will facilitate and promote improved multi-sectoral and stakeholder communication and coordination on policy, standards, and guidance in line with the National Malaria Strategic Plan 2014-2020. Field experience under Objective 3 will increase country capacity to develop, implement and monitor programs and the challenges and lessons learned through this will in turn, inform the policy discussions and future modifications to implementation. Research conducted under Objective 2 will inform Objectives 1 and 3 as it sheds insight on potential scale up, identifies best practices, and points towards modifications in program design for future years.

### Figure: VectorWorks Tanzania Results Framework

Project Goal: Support NMCP to achieve and maintain high levels of coverage and use of long-lasting ITNs

Objective 1.  
Strengthen multi-sectorial and in-country coordination



## VectorWorks Tanzania Indicator Table and Performance Indicator Reference Sheets

### A. Indicator Table for VectorWorks Tanzania

<i>INDICATOR</i>	<i>DEFINITION</i>	<i>SOURCE</i>	<i>FREQUENCY OF REPORTING</i>	<i>TARGETS YR 1</i>	<i>TARGETS YR 2</i>	<i>TARGETS YR 3</i>	<i>TARGET YR4</i>	<i>TARGET YR5</i>
1. Number of SNP coordination, review and/or planning meetings held by VectorWorks with Ministry of Health and Social Welfare (MoHSW), Ministry of Education and Vocational Training (MoEVT), and/or the President's Office Regional Administration & Local Government (PO-RALG) - administrative, education and health arms.	<p>This indicator intends to measure the level of government personnel involvement in planning and reviewing SNP. Levels are national, regional, district and ward.</p> <p>The specific arm represented by the PO-RALG attendees (administrative, education or health) will be noted.</p>	Meeting reports	Semiannually	25 (National 3 Regional 3 District 19)	55 (National 1 Regional 7 District 47)	80 (National 4 Regional 9 District 67)	129 (National 10 Regional 14 District: 105)	N/A

<b>INDICATOR</b>	<b>DEFINITION</b>	<b>SOURCE</b>	<b>FREQUENCY OF REPORTING</b>	<b>TARGETS YR 1</b>	<b>TARGETS YR 2</b>	<b>TARGETS YR 3</b>	<b>TARGET YR4</b>	<b>TARGET YR5</b>
2. Percent of schools flagged for validation that received a validation visit for SNP	<p><b>Numerator:</b> The number of schools visited by validation teams. The validation teams will verify student quantifications against actual class lists in the schools.</p> <p><b>Denominator:</b> The total number of schools that will distribute nets in the current SNP round with variances in student quantification beyond the predefined validation cut-off.</p>	Validation report	Semiannually	95%	50% *See reference sheet for explanation of change in target	0	0	0
3. Number of districts with a complete micro-plan for ITN distribution through SNP	A complete micro-plan will be defined in the standard operating procedures/implementation guidelines.	Micro-plan meeting reports and actual micro-plans	Semiannually	19	50	105	105	0
4. Number of districts with a complete micro-plans for ITN distribution through health facilities	A complete micro-plan will be defined in the standard operating procedures/implementation guidelines.	Micro-plan meeting reports and actual micro-plans	Semiannually	N/A	16	50	105	105

<i>INDICATOR</i>	<i>DEFINITION</i>	<i>SOURCE</i>	<i>FREQUENCY OF REPORTING</i>	<i>TARGETS YR 1</i>	<i>TARGETS YR 2</i>	<i>TARGETS YR 3</i>	<i>TARGET YR4</i>	<i>TARGET YR5</i>
5. Percent of SNP distribution points (schools participating in SNP) that received the correct number of nets during the reporting period	<p><b>Numerator:</b> Number of SNP distribution points (schools participating in SNP) that received the correct number of nets as defined in the micro-plans.</p> <p><b>Denominator:</b> The total number of SNP distribution points (schools participating in SNP). For Tanzania SNP, this is the number of schools that will distribute ITNs in the current round under VectorWorks.</p>	Truck drop-off data and transportation reports	Annually	100%	90%	90%	90%	0

<b>INDICATOR</b>	<b>DEFINITION</b>	<b>SOURCE</b>	<b>FREQUENCY OF REPORTING</b>	<b>TARGETS YR 1</b>	<b>TARGETS YR 2</b>	<b>TARGETS YR 3</b>	<b>TARGET YR4</b>	<b>TARGET YR5</b>
6. Number of people trained in ITN distribution by VectorWorks by sex, ITN distribution channel, and location	This is a global VectorWorks and PMI indicator. This is defined as the number of people trained with VectorWorks funds in ITN distribution. For VectorWorks Tanzania, the ITN distribution channels are schools and health facilities. Locations include national, regional, district, ward and facility. Training will be defined in the implementation guidelines or standard operating procedure for each channel.	Training reports	Quarterly and semiannual	School: 528	<b>Health Facility:</b> National: 5 Regional: 14 District: 84 Facility: 936 Total: 1,039  <b>School:</b> National: 14 Regional: 28 District: 192 Ward: 1,069 Total: 1,303  <b>Grand Total: 2,342</b>	<b>Health Facility:</b> National: 0 Regional: 50 District: 200 Facility: 1,400 Total: 1,650  <b>School:</b> National: 18 Regional: 36 District: 268 Ward: 1,400 Total: 1,722  <b>Grand Total: 3,372</b>	<b>Health Facility:</b> 0  <b>School:</b> 0	<b>Health Facility:</b> 0  <b>School:</b> 0

<b>INDICATOR</b>	<b>DEFINITION</b>	<b>SOURCE</b>	<b>FREQUENCY OF REPORTING</b>	<b>TARGETS YR 1</b>	<b>TARGETS YR 2</b>	<b>TARGETS YR 3</b>	<b>TARGET YR4</b>	<b>TARGET YR5</b>
7. Number of insecticide treated nets (ITNs) purchased with USG funds that were distributed by VectorWorks, by channel	This is a global VectorWorks and PMI indicator defined as the number of ITNs distributed through mass, continuous or routine distribution channels. VectorWorks must have funded the transport of nets to storage sites or distribution points. For the Tanzania School Net Program, the channel is schools. For the Tanzania health facility distribution, the channel is health facilities that provide ANC and/or IVD services.	Distribution reports	Quarterly and semiannually	Schools: 500,000	<b>Health facilities:</b> 320,000 <b>Schools:</b> 1,310,000 <b>Total:</b> 1,630,000	<b>Health facilities:</b> 1,330,709 <b>Schools:</b> 966,812 <b>Total:</b> 2,297,521	<b>Health facilities:</b> 956,701 <b>Schools:</b> 2,770,086  Total: 3,726,787	<b>Health facilities:</b> 558,080

<b>INDICATOR</b>	<b>DEFINITION</b>	<b>SOURCE</b>	<b>FREQUENCY OF REPORTING</b>	<b>TARGETS YR 1</b>	<b>TARGETS YR 2</b>	<b>TARGETS YR 3</b>	<b>TARGET YR4</b>	<b>TARGET YR5</b>
8. Number of insecticide treated nets (ITNs) purchased by other partners that were distributed with USG funds	This is a PMI indicator defined as the number of ITNs purchased by other partners that were by distributed with USG funds through mass, continuous or routine distribution channels. VectorWorks must have funded the transport of nets to storage sites or distribution points. For the Tanzania School Net Program, the channel is schools. For the Tanzania health facility distribution, the channel is health facilities that provide ANC and/or IVD services.	Distribution reports	Quarterly and semiannually	N/A	N/A	<b>N/A</b>	<u>Health facilities:</u> 1,240,182  <u>Schools:</u> 0  Total: 1,240,182	<u>Health facilities:</u> 4,306,230  <u>Schools:</u> 0  Total: 4,306,230
9. Percent of schools visited by a supervision team during ITN issuing	<b>Numerator:</b> The number of schools participating in SNP visited by a designated SNP supervision team during the issuing period. <b>Denominator:</b> The total number of schools participating in SNP. For Tanzania SNP, this is the number of schools that will distribute ITNs in the current round under VectorWorks.	Supervision report	Annually	90%	25% *See reference sheet for explanation of change in target	25%	25%	0

<i>INDICATOR</i>	<i>DEFINITION</i>	<i>SOURCE</i>	<i>FREQUENCY OF REPORTING</i>	<i>TARGETS YR 1</i>	<i>TARGETS YR 2</i>	<i>TARGETS YR 3</i>	<i>TARGET YR4</i>	<i>TARGET YR5</i>
10. Percent of health facilities with flagged variances visited by supervision teams	<p><b>Numerator:</b> The number of health facilities with flagged variances that were visited by designated supervision teams during the reporting period.</p> <p><b>Denominator:</b> The total number of health facilities with flagged variances during the reporting period. A flagged variance will be defined in the implementation guideline.</p>	Validation report	Quarterly	N/A	95%	95%	95%	95%

<b>INDICATOR</b>	<b>DEFINITION</b>	<b>SOURCE</b>	<b>FREQUENCY OF REPORTING</b>	<b>TARGETS YR 1</b>	<b>TARGETS YR 2</b>	<b>TARGETS YR 3</b>	<b>TARGET YR4</b>	<b>TARGET YR5</b>
11. Proportion of targeted beneficiaries who received an ITN, by channel, location and sex	<p><b>Numerator:</b> The number of targeted beneficiaries who received an ITN.</p> <p><b>Denominator:</b> The number of targeted beneficiaries registered for each channel. Channels are schools and health facilities. For school-based distribution the targeted beneficiaries are defined in the standard operating procedure. For health facility based distribution the targeted beneficiaries are pregnant women who attended the health facility for their first ANC visit and children who attended the health facility for the measles vaccine.</p>	<p><b>Schools:</b> Distribution reports</p> <p><b>Health facilities:</b> Accountability report</p>	<p><b>Schools:</b> Annually</p> <p><b>Health facilities:</b> Quarterly</p>	<p>Schools: 100%</p>	<p><b>Schools:</b> 99%</p> <p><b>Health facilities:</b> ANC: 80% IVD: 80%</p>	<p><b>Schools:</b> 99%</p> <p><b>Health facilities:</b> ANC: 80% IVD: 80%</p>	<p><b>Schools:</b> 99%</p> <p><b>Health facilities:</b> ANC: 80% IVD: 80%</p>	<p><b>Schools:</b> 0</p> <p><b>Health facilities:</b> ANC: 80% IVD: 80%</p>
12. Percent of health facilities that did not experience a stock-out of ITNs, by region, during the reporting period	<p><b>Numerator:</b> Number of health facilities that did not experience a stock-out of ITNs during the reporting period. A stock-out will be defined in the implementation guideline.</p> <p><b>Denominator:</b> Total number of health facilities participating in the health facility ITN distribution during the reporting period.</p>	eLMIS and Accountability report, or ILS Gateway	Quarterly	N/A	100%	100%	100%	100%

## B. Performance Indicator Reference Sheets

**Indicator #1: Number of SNP coordination, review and/or planning meetings held by VectorWorks with Ministry of Health and Social Welfare (MoHSW), Ministry of Education and Vocational Training (MoEVT), and/or the President’s Office Regional Administration & Local Government (PO-RALG) - administrative, education and health arms.**

Year	Targets & Actuals			
	Total	National	Regional	District
1	Target: 25	Target: 3	Target: 3	Target: 19
	Actual: 25	Actual: 3	Actual: 3	Actual: 19
2	Target: 58	Target: 1	Target: 7	Target: 50
	Actual: 63	Actual: 2	Actual: 7	Actual: 54
3	Target 82	Target: 4	Target: 9	Target: 67
	Actual: TBD	Actual: TBD 2	Actual: 9	Actual: 67
4	Target: 129	Target: 10	Target: 10	Target: 105
	Actual: TBD	Actual: TBD	Actual: TBD	Actual: TBD
5	N/A	N/A	N/A	N/A
Life of Project				

**Unit of Measure:** Number

**Disaggregation:** Level of government (national, regional, and district)

**Source:** Meeting reports

**Definition:** This indicator intends to measure the degree of cross-ministerial involvement in reviewing and planning the performance of SNP at all levels of government. Levels are national, regional, district and ward.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting personnel:** Malaria Advisor

**Notes:** School Net Program (SNP) has evolved over time since its inception in 2013. In year four, VectorWorks engaged in dialogue with PO-RALG, MoHCDGEC/NMCP and identify one region to implement a

“Self-Managed” SNP, VectorWorks envisions the region to take care of the entire distribution costs including but not limited to ITNs transportation costs to schools, supervision, printing of issuing booklets, reporting and documentation. In year four, VectorWorks will work with the region to profile such achievements and lessons learnt by highlighting the successes and challenges to other regions as a case and encourage regions to better plan even more cost effective rounds of locally self-managed SNP and demonstrate the fact that SNP can be sustained by the local governments in the absence of external donor support. In year 4 SNP will conduct feedback/review and planning meetings in quarter 3 and 4.

**Indicator #2:** Percent of schools flagged for validation that received a validation visit for SNP

Year	Target	Actual
1	95%	94.6% Lindi: 93% Ruvuma: 95% Mtwara: 98%
2	50%	Southern regions 0% Lake zone 95%
3	50%	0
4	50%	0
5	N/A	N/A
Life of Project		

**Unit of Measure:** Percent

**Disaggregation:** Location (region, district)

**Source:** Validation reports

**Definition:**

**Numerator:** The number of schools visited by validation teams. The validation teams will verify student quantifications against actual class lists in the schools.

**Denominator:** The total number of schools that will distribute nets in the current SNP round with variances in student quantification beyond the predefined validation cut-off.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting personnel:** SNP Officer

**Notes:** In year 4, the project does not conduct council and school level data validation activity, due to the Tanzanian government's request to VectorWorks to rely on data government provides.

**Indicator #3: Number of districts with a complete micro-plan for ITN distribution through SNP**

Year	Target	Actual
1	19	19
2	50	54
3	105	105
4	105	TBD
5	N/A	N/A
Life of Project		

**Unit of Measure:** Number

**Disaggregation:** District

**Source:** Micro-plan meeting reports and actual micro-plans

**Definition:** A complete micro-plan will be defined in the standard operating procedures/implementation guidelines.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting personnel:** SNP Officer and PSI

**Notes:** 1 new district was added to Mtwara after year 1 of the project; therefore, SNP4 had 20 micro-plans from the Southern regions and 30 micro-plans from the Lake regions.

During SNP3 planning, the total number of districts in the 7 regions was 50 but during implementation phase 4 new districts were established (2 in Mtwara and 2 in Ruvuma) making it 54 districts in total.

For years 3 and 4, there were 105 districts.

**Indicator #4: Number of districts with complete micro-plans for ITN distribution through health facilities**

Year	Target	Actual
1	N/A	N/A
2	16	16
3	105	105
4	105	105
5	105	TBD
Life of Project		

**Unit of Measure:** Number

**Disaggregation:** District

**Source:** Micro-plan meeting reports and actual micro-plans

**Definition:** A complete micro-plan will be defined in the standard operating procedures/implementation guidelines.

**Frequency of reporting:** Semiannually

**Reporting format:** Semiannual report

**Reporting personnel:** Logistics Manager and PSI

**Notes:** In year 3 VectorWorks expects to expand its operations to reach out to 9 regions with a total of 67 districts. In year 4 and 5 the project in collaboration with NMCP expects to distribute ITNs in 105 districts from 14 regions.

**Indicator #5: Percent of SNP distribution points (schools participating in SNP) that received the correct number of nets during the reporting period**

Year	Target	Actual
1	100%	73% (see note)
2	90%	100%
3	90%	100%
4	90%	100%
5	N/A	N/A
Life of Project		

**Unit of Measure:** Percent

**Disaggregation:** Location (zone, region, district)

**Source:** Truck drop-off data and transportation reports

**Definition:**

**Numerator:** Number of SNP distribution points (schools participating in SNP) that received the correct number of nets as defined in the micro-plans.

**Denominator:** The total number of SNP distribution points (schools participating in SNP). For Tanzania SNP, this is the number of schools that will distribute ITNs in the current round under VectorWorks.

**Frequency of reporting:** Annually

**Reporting format:** Annual report

**Reporting personnel:** PSI

**Notes:** According to PSI data report on SNP3 transportation, 1,401 of 1,919 schools (73%) received the exact correct number of ITNs as compared against the pupil registration data. This data is still under review and the percentage accomplishment may change. In the quarter 1 of year 4 SNP distributed SNP 5 ITNs procured by Global Funds for 10 regions. All schools received correct quantities.

**Indicator #6: Number of people trained in ITN distribution by VectorWorks by sex, ITN distribution channel, and location**

Year	Target	Actual
1	<p><b>School:</b> Total: 528 Regional: 10 District: 122 WEC: 396</p>	<p><b>School:</b> Total: 552 Regional: 12 (66% male; 33% female) District: 68 (46% male; 54% female) WEC: 472 (85% male; 15% female)</p>
2	<p><b>Health Facility:</b> National: 5 Regional: 14 District: 84 Facility: 936 <b>Total: 1,039</b></p> <p><b>School:</b> National: 14 Regional: 28 District: 192 Ward: 1,069 Total: 1,303</p> <p><b>Grand Total 2,342</b></p>	<p><b>Health Facility:</b> National: 6 Regional: 22 District: 136 Facility: 1,247 <b>Total: 1,411</b></p> <p><b>School:</b> National: 14 Regional: 28 District: 213 Ward: 1,182 Total: 1,437</p> <p><b>Grand Total 2,848</b></p>
3	<p><b>Health Facility:</b> National: 0 Regional: 50 District: 200 Facility: 1,400 Total: 1,650</p> <p><b>School:</b> National: 18 Regional: 36 District: 268 Ward: 1,400 Total: 1,722</p> <p><b>Grand Total: 3,372</b></p>	<p><b>Health Facility:</b> National: 0 Regional: 56 District: 396 Facility: 7,051 <b>Total: 7,503</b></p> <p><b>School:</b> National: 0 Regional: 42 District: 418 Ward: 0 <b>Total: 460</b></p> <p><b>Grand Total: 7,963</b></p>
4	N/A	N/A
5	N/A	N/A

Year	Target	Actual
Life of Project		

**Unit of Measure:** Number

**Disaggregation:** Sex, ITN distribution channel, and location

**Source:** Training reports

**Definition:** This is a global VectorWorks and PMI indicator. This is defined as the number of people trained with VectorWorks funds in ITN distribution. For VectorWorks Tanzania, the ITN distribution channels are schools and health facilities. Locations include national, regional, district, ward and facility. Training will be defined in the implementation guidelines or standard operating procedure for each channel.

**Frequency of reporting:** Quarterly and semiannual

**Reporting format:** TMEMS database (quarterly) and semiannual report

**Reporting personnel:** M&E Manager and PSI

**Notes:** In year 4 and 5 VectorWorks will not train any group of implementers on ITN distribution since there will be no new regions of operation.

**Indicator #7: Number of insecticide treated nets (ITNs) purchased with USG funds that were distributed by VectorWorks, by channel**

Year	Target	Actual
1	Schools: 500,000	Schools: Total: 494,407 Lindi: 135,820 Ruvuma: 169,849 Mtwara: 188,738
2	Health facilities: 320,000  Schools: 1,310,000  Total: 1,630,000	Health facilities: 237,760  Schools: 1,152,715  Total: 1,390,472
3	Health facilities: 1,330,709  Schools: 966,812	Health facilities: 1,249,120  Schools: 921,607 Total: 2,170,727
4	Health facilities: 956,701  Schools: 2,770,086	Health facilities: 775,810 Schools: 0
5	Health facilities: 558,080  Schools: N/A	Health facilities:  Schools: N/A
Life of Project		

**Unit of Measure:** Number

**Disaggregation:** ITN distribution channel and region

**Source:** Distribution reports

**Definition:** This is a global VectorWorks and PMI indicator defined as the number of ITNs distributed through mass, continuous or routine distribution channels. VectorWorks must have funded the transport of nets to storage sites or distribution points. For the Tanzania School Net Program, the channel is schools. For the Tanzania health facility distribution, the channel is health facilities that provide ANC and/or IVD services.

**Frequency of reporting:** Quarterly and semiannually

**Indicator #8: Number of insecticide treated nets (ITNs) purchased by other partners that were distributed by VectorWorks, by channel**

Year	Target	Actual
1		
2		
3		
4	<p><b>Health facilities:</b> 1,240,182</p> <p>Schools 0</p>	<p><b>Health facilities: 1,155,640</b></p> <p><b>Schools:</b> 2,094,470</p>
5	<p>Health facilities: 558,080</p> <p>Schools: N/A</p>	<p><b>Health facilities:</b></p> <p><b>Schools:</b> N/A</p>
Life of Project		

**Unit of Measure:** Number

**Disaggregation:** ITN distribution channel and region

**Source:** Distribution reports

**Definition:** This is a global VectorWorks and PMI indicator defined as the number of ITNs distributed through mass, continuous or routine distribution channels. VectorWorks must have funded the transport of nets to storage sites or distribution points. For the Tanzania School Net Program, the channel is schools. For the Tanzania health facility distribution, the channel is health facilities that provide ANC and/or IVD services. PMI introduced this indicator in quarter 4 of year 4 to accommodate Global Funds ITNs that VectorWorks project distributed using USG funds. In year 4 PMI procures ITNs for all 14 SNP regions.

**Frequency of reporting:** Quarterly and semiannually

**Reporting format:** TMEMS database (quarterly) and semiannual report

**Reporting units:** M&E Manager

**Indicator #9: Percent of schools visited by a supervision team during ITN issuing**

Year	Target	Actual
1	90%	21% (see note)
2	25%	9.48%
3	25%	25%
4	25%	25%
5	N/A	N/A
Life of Project		

**Unit of Measure:** Percent

**Disaggregation:** Region and district

**Source:** Supervision report

**Definition:**

**Numerator:** The number of schools participating in SNP visited by a designated SNP supervision team during the issuing period.

**Denominator:** The total number of schools participating in SNP. For Tanzania SNP, this is the number of schools that will distribute ITNs in the current round under VectorWorks.

**Frequency of reporting:** Annually

**Reporting format:** Annual report

**Reporting personnel:** SNP Officer

**Notes:** During the SNP3 planning phase, WECs were expected to conduct supervision during issuing but this specific component was not included in the trainings of WECs. While they did collect data from schools during the issuing period using the issuing data collection tools designed for SNP3, they did not actually conduct what can be considered formal supervision for school distribution during ITN issuing. Therefore, only the supervision visits to schools that were conducted by the national supervision teams is counted against this indicator. The target for SNP4 (project year two) was adjusted to reflect this, and indicates the expected coverage of supervision visits by national supervision teams for SNP4. SNP5 was implemented in 14 regions in Years Three and Four.

**Indicator #10: Percent of health facilities with flagged variances visited by supervision teams**

Year	Target	Actual
1	N/A	N/A
2	95%	0%
3	95%	0%
4	95%	53%
5	95%	TBD
Life of Project		

**Unit of Measure:** Percent

**Disaggregation:** Region and district

**Source:** Validation reports

**Definition:**

**Numerator:** The number of health facilities with flagged variances that were visited by designated supervision teams during the reporting period.

**Denominator:** The total number of health facilities with flagged variances during the reporting period. A flagged variance will be defined in the implementation guideline.

**Frequency of reporting:** Quarterly

**Reporting format:** Semiannual report

**Reporting personnel:** M&E Manager

**Notes:** Orientation on the use of accountability information system (*Chandarua Kliniki* dashboard) happened in September 2017. Regional Managers started to apply the tool on supervision in October 2017. Thus, in the first six month of FY2018 the project, through Regional Managers visited a total of 702 health facilities with red flag, which is 53% of 1325 total health facilities with red flag. Supervision visits intend to identify causes of the discrepancy and provide technical assistance to health facilities' personnel. Since *Chandarua Kliniki* dashboard came to operation in Year Four, in Year Two and Three VectorWorks visited health facilities, randomly, for monitoring and supervision purpose. Starting Quarter One of Year Four the project conducts supervisions at health facilities with more focus on red flag facilities.

**Indicator #11: Proportion of targeted beneficiaries who received an ITN, by channel, location and sex**

Year	Target	Actual
1	<b>Schools:</b> 100%	<b>Schools:</b> Total: 99.25% (49% male, 51% female) Lindi: 97.5%; Ruvuma: 99.9%; Mtwara: 99.9%
2	<b>Schools:</b> 99% <b>Health facilities:</b> ANC: 80%; IVD: 80%	<b>Schools:</b> 98% <b>Health facilities:</b> ANC: <i>Not determined</i> ; IVD: <i>Not determined</i>
3	<b>Schools:</b> 99% <b>Health facilities:</b> ANC: 80%; IVD: 80%	<b>Schools:</b> 98% <b>Health facilities:</b> ANC: 56%; IVD: 44%
4	<b>Schools:</b> 99% <b>Health facilities:</b> ANC: 80%; IVD: 80%	<b>Schools:</b> <b>Health facilities:</b> ANC: not determined; IVD: not determined
5	<b>Schools:</b> N/A <b>Health facilities:</b> ANC: 80%; VD: 80%	<b>Schools:</b> N/A <b>Health facilities:</b> ANC: IVD:
Life of Project		

**Unit of Measure:** Percent

**Disaggregation:** Channel, location and sex

**Source:**

**Schools:** Distribution reports

**Health facilities:** Accountability report

**Definition:**

**Numerator:** The number of targeted beneficiaries who received an ITN.

**Denominator:** The number of targeted beneficiaries registered for each channel.

Channels are schools and health facilities. For school-based distribution the targeted beneficiaries are defined in the standard operating procedure. For health facility based distribution the targeted beneficiaries are pregnant women who attended the health facility for their first ANC visit and children who attended the health facility to receive the first measles vaccine.

**Frequency of reporting:**

**Schools:** Annually

**Health facilities:** Quarterly

**Reporting format:** Semiannual report

**Reporting personnel:** M&E Manager, Logistics Manager, and SNP Officer

**Notes:** For schools 98% were reached in previous rounds so we believe this is a reasonable target.

**Indicator #12: Percent of health facilities that did not experience a stock-out of ITNs, by region, during the reporting period**

Year	Target	Actual
1	N/A	N/A
2	80%	100%
3	80%	88.2%
4	80%	61.1%
5	80%	TBD
Life of Project		

**Unit of Measure:** Percent

**Disaggregation:** Region and district

**Source:** eLMIS and accountability report or ILS Gateway

**Definition:**

**Numerator:** Number of health facilities that did not experience a stock-out of ITNs during the reporting period. A stock-out will be defined in the implementation guideline.

**Denominator:** Total number of health facilities participating in the health facility ITN distribution during the reporting period.

**Frequency of reporting:** Quarterly

**Reporting format:** Semiannual report

**Reporting personnel:** M&E Manager, Logistics Manager, and PSI

**Notes:**

## Reporting, Data Management and Use

VectorWorks Tanzania has several programmatic reporting requirements:

- Report on those indicators that are also global VectorWorks and PMI indicators to the TMEMS database quarterly.
- Submit semiannual and annual reports to PMI within 45 days after the reporting period has ended.
- Submit deliverables as stated in annual work plans, which report on activities conducted, including quarterly accountability reports for health facility distribution and the procedural audit for school distribution (see below).

Per guidance of the GoT, VectorWorks will use the BEMIS to determine data related to SNP. VectorWorks will use the *Chandarua Kliniki* dashboard for monitoring related to health facility distribution.

VectorWorks will periodically review progress against targets to advise current implementation and annual work plans. Data will be presented using the types of disaggregation mentioned above to allow for comparisons over time, between regions, districts, facility types and sex. This analysis will be part of the semiannual reporting process. A team review of the analysis will also be part of the annual work plan process. During annual work planning meetings, VectorWorks will review progress against targets and reflect on challenges faced, lessons learned and recommendations.

## Evaluation Plan

VectorWorks conducted process evaluations, mostly recently during SNP4. Additionally, VectorWorks conducted a Commodity Management Audit for SNP4.

VectorWorks will also conduct a financial evaluation of the school net distribution program. This activity is funded under PMI-Washington with Core funds and led by VectorWorks partner, Tulane University. Tulane has set up cost tracking systems and collected cost data for SNP3. These analyses will provide critical information on the costs of different types of continuous distribution channels, to be used by the NMCP and for PMI. The economic analysis provides a more complete picture of the costs including volunteered or non-project time that will inform a comparative analysis that includes person-years-of-protection for different types of channels, and will help to establish the case for or against a transition from mass campaigns to continuous distribution. Currently, VectorWorks is conducting a cost effective evaluation of SNP5, which will provide valuable information when compared to SNP3 about cost effectiveness during pilots and at scale.

The results of the VectorWorks Tanzania project monitoring and evaluation data will inform future program design, National ITN strategies, Malaria Operational Plans, and Global Fund concept notes.

