

# PMI

# U.S. PRESIDENT'S MALARIA INITIATIVE

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This FY 2021 Malaria Operational Plan has been approved by the U.S. Global Malaria Coordinator and reflects collaborative discussions with national malaria control programs and other partners. Funding available to support outlined plans is pending final FY 2021 appropriation. Any updates will be reflected in revised postings.

# U.S. PRESIDENT’S MALARIA INITIATIVE

## Tanzania (Mainland) and Zanzibar

### Malaria Operational Plan FY 2021

The U.S. President’s Malaria Initiative (PMI)—led by the U.S. Agency for International Development (USAID) and implemented together with the U.S. Centers for Disease Control and Prevention (CDC)—delivers cost-effective, lifesaving malaria interventions alongside catalytic technical and operational assistance to support Tanzania to end malaria. PMI has been a proud partner of Tanzania since 2006, helping to decrease child death rates by 40 percent through investments totaling almost \$613 million through FY 2020.

The proposed PMI fiscal year (FY) 2021 planning budget for Tanzania is \$40 million. This Malaria Operational Plan (MOP) summary outlines planned PMI activities in Tanzania for FY 2021. See accompanying **FY 2021 Budget Tables** (Tables 1 and 2) for activities and budget amounts, available on [pmi.gov](http://pmi.gov). Developed in consultation with the National Malaria Control Program (NMCP), the President's Office-Regional Administrative and Local Government (PO-RALG), Zanzibar Malaria Elimination Program (ZAMEP), and key stakeholders, proposed activities reflect national and PMI strategies, draw on best-available data, and align with the country context and health system. Proposed PMI investments support and build on those made by the Governments of Tanzania and Zanzibar as well as other donors and partners. See **Annex A: Gap Analysis Tables** for both Tanzania (Mainland) and Zanzibar for information on commodities.

To accelerate the journey to self-reliance, PMI developed a programmatic inventory to assess the strengths and persistent challenges of the Tanzania (Mainland) and Zanzibar programs. See **Annex B: Program Inventory** for both Tanzania (Mainland) and Zanzibar. The activities proposed in this MOP are tailored to draw on strengths and foster improvements.

Since the FY 2020 MOP was developed, the following new data, updated policy and/or strategic priorities relevant for the FY 2021 MOP have become available.

The Governments of Tanzania and Zanzibar have made admirable progress in improving the quality and delivery of malaria services at the facility level over the past several years. PMI investments supported the development and deployment of structured supervision tools, quality assurance programs, mentorship, and systems for data analysis and use. NMCP rolled out a national Malaria Service Delivery and Quality Improvement (MSDQI) tool for supportive supervision and follow-up of public facilities, including modular supervision checklists for out-patient departments, in-patient departments, antenatal care, laboratory, and pharmacy, and electronic data collection and analysis. Alongside efforts to improve care in the public sector, there is also considerable interest within the Government of Tanzania (Mainland) to understand and improve the quality of malaria services in private facilities and other private outlets. A significant proportion of the population in Tanzania seeks care in the private sector. While NMCP has prioritized Global Fund resources for subsidies for artemisinin-based combination

therapies (ACTs) and insecticide-treated nets (ITNs) distributed in private health facilities, private health facilities have not traditionally received other support, such as training, orientation on guidelines, or supervision. Zanzibar implements a comprehensive quality assurance program for laboratory and clinical components of malaria case management, encompassing all public and private health facilities, and is scaling-up a tailored version of the MSDQI package supported by PMI in 2020 that will continue into 2021.

NMCP developed a data-driven approach across the malaria portfolio in its Malaria Supplemental Strategic Plan (2018) and updated in its National Malaria Strategic Plan (2020-2025), which stratifies malaria burden by districts and outlines packages of intervention for each stratum. The overall district-level approach for stratification signals a shift toward tailoring and responsiveness to the malaria situation at lower levels. In MOP FY 2021, PMI will work closely with NMCP, PO-RALG, ZAMEP, and other PMI partners to strengthen case management and MIP prevention by supporting implementation and/or planning, and data use of MSDQI in public and selected private health facilities in selected priority districts in up to 15 regions in Tanzania (Mainland) and the two islands of Zanzibar.

The strategic prioritization of private outlets for intervention will be critical in directing limited resources for maximum impact. PMI and USAID, along with other donors, have supported a system of mobile data reporting from Accredited Drug Distributor Outlets (ADDOs), which includes malaria indicators. ADDO dispensers are using a mobile, tablet-based USSD reporting system to provide dispensing data on malaria commodities such as ACTs and ITNs, and to aggregate this data for the NMCP malaria dashboard within DHIS2. PMI will build on previous achievements by supporting the development and use of private sector malaria data systems in ADDO dispensers to provide malaria dispensing data and to aggregate data for DHIS2. PMI support will expand the number of ADDO dispensers providing health management information system (HMIS) data and training for malaria focal persons using malaria data. PMI support will also increase availability of malaria market information for decision-making by NMCP and PO-RALG.

Concurrently, the Tanzania (Mainland) Ministry of Health (MoH) is developing a community health worker (CHW) policy that will include malaria testing and treatment amongst other services. Once details of the policy and package are finalized in 2020, NMCP, PO-RALG, and partners will create a plan for implementation. In MOP FY 2021, PMI will provide technical and implementation support for iCCM/malaria testing and treatment by CHWs, including development and rollout of training and supervision in up to two regions in Tanzania (Mainland).

For more information about the malaria situation, malaria control progress, and intervention-specific data in Tanzania, please refer to the FY 2020 MOPs available on [pmi.gov](http://pmi.gov).

# Annex A. Gap Analysis Tables

| <b>Tanzania (Mainland) - Insecticide-treated Net (ITN) Gap Analysis</b> |                   |                  |                   |
|---|-------------------|------------------|-------------------|
| <b>Calendar Year</b>  | <b>2020</b>       | <b>2021</b>      | <b>2022</b>       |
| Total targeted population   | 55,966,030        | 57,724,380       | 59,517,754        |
| <b>Continuous Distribution Needs</b>                                    |                   |                  |                   |
| Channel #1: ANC   | 2,266,624         | 2,337,837        | 2,410,469         |
| Channel #1: EPI   | 1,807,703         | 1,864,497        | 1,922,423         |
| Channel #2: SNP   | 3,118,385         | 4,209,693        | 6,688,914         |
| Estimated total need for continuous channels                            | 7,192,712         | 8,412,028        | 11,021,806        |
| <b>Mass Campaign Distribution Needs</b>                                 |                   |                  |                   |
| 2019/2020/2021 mass distribution campaign(s)                            | 7,097,563         | 0                | 0                 |
| Estimated total need for campaigns                                      | 7,097,563         | 0                | 0                 |
| <b>Total ITN Need: Routine and Campaign</b>                             | <b>14,290,275</b> | <b>8,412,028</b> | <b>11,021,806</b> |
| <b>Partner Contributions</b>  |                   |                  |                   |
| ITNs carried over from previous year                                    | 35,165            | 430,910          | 0                 |
| ITNs from MoH   | 0                 | 0                | 0                 |
| ITNs from Global Fund   | 11,574,845        | 4,568,264        | 7,910,631         |
| ITNs planned with PMI funding   | 3,111,175         | 3,111,175        | 3,111,175         |
| <b>Total ITNs Available</b>   | <b>14,721,185</b> | <b>8,110,349</b> | <b>11,021,806</b> |
| <b>Total ITN Surplus (Gap)</b>  | <b>430,910</b>    | <b>-301,678</b>  | <b>0</b>          |

*Notes:*

- ITN needs for ANC are based on pregnant women representing 4.5 percent of the total population annually, and ANC ITN delivery reaching 90 percent of pregnant women annually.
- ITN needs for EPI are based on children under 1 year of age representing 3.8 percent of population annually, and EPI ITN delivery reaching 85 percent of children.
- ITN needs for SNP are based on the tentative plans for NMCP to expand the SNP beyond the PMI supported 14 regions. Current NMCP is still revising the strategic plan. These figures might change once the strategic plan is finalized.
- Universal coverage campaign will cover all Global Fund-supported regions except Dar es Salaam (see vector control section).

| <b>Tanzania (Mainland) - Sulfadoxine-Pyrimethamine (SP) Gap Analysis</b> |                  |                  |                  |
|--|------------------|------------------|------------------|
| <b>Calendar Year</b>   | <b>2020</b>      | <b>2021</b>      | <b>2022</b>      |
| Population at risk of malaria  | 53,167,729       | 54,838,161       | 59,517,754       |
| <b>SP Needs</b>  |                  |                  |                  |
| Total number of pregnant women <sup>1</sup>                              | 2,238,641        | 2,308,975        | 2,380,710        |
| <b>Total SP Need (in treatments) <sup>2,3</sup></b>                      | <b>7,723,311</b> | <b>7,965,964</b> | <b>8,213,450</b> |
| <b>Partner Contributions</b>   |                  |                  |                  |
| SP carried over from previous years                                      | 0                | 89,547           | 320,445          |
| SP from Government   | 7,812,858        | 8,196,862        | 8,093,005        |
| SP from Global Fund  | 0                | 0                | 0                |
| SP from other donors   | 0                | 0                | 0                |
| SP planned with PMI funding  | 0                | 0                | 0                |
| <b>Total SP Available</b>  | <b>7,812,858</b> | <b>8,286,409</b> | <b>8,413,450</b> |
| <b>Total SP Surplus (Gap)</b>  | <b>89,547</b>    | <b>320,445</b>   | <b>200,000</b>   |

<sup>1</sup>The total number of pregnant women is estimated at 4% of the total population.

<sup>2</sup>The number of treatments is calculated using the total number of pregnant women attending ANC and estimating the percentage who will attend ANC1, ANC2, ANC3, ANC4 to receive IPTp.

<sup>3</sup>One treatment of IPTp is comprised of 3 SP tablets.

| <b>Tanzania (Mainland) - Rapid Diagnostic Test (RDT) Gap Analysis</b>               |                   |                   |                   |
|---|-------------------|-------------------|-------------------|
| <b>Calendar Year</b>  | <b>2020</b>       | <b>2021</b>       | <b>2022</b>       |
| <b>RDT Needs</b>  |                   |                   |                   |
| Total country population  | 55,966,030        | 57,724,380        | 59,517,754        |
| Population at risk for malaria <sup>1</sup>   | 53,167,729        | 54,838,161        | 56,541,866        |
| PMI-targeted at-risk population   | 53,167,729        | 54,838,161        | 56,541,866        |
| Total number of projected fever cases   | 22,744,982        | 23,882,231        | 25,132,987        |
| Percent of fever cases tested with an RDT   | 95%               | 95%               | 95%               |
| <b>Total RDT Needs <sup>2</sup></b>   | <b>24,329,421</b> | <b>25,584,756</b> | <b>26,733,420</b> |
| <b>Partner Contributions (to PMI target population if not entire area at risk)*</b> |                   |                   |                   |
| RDTs carried over from previous year  | 19,619,304        | 20,784,308        | 20,784,308        |
| RDTs from Government  | 0                 | 0                 | 0                 |
| RDTs from Global Fund   | 25,494,425        | 25,584,756        | 28,139,375        |
| RDTs from other donors  | 0                 | 0                 | 0                 |
| RDTs planned with PMI funding   | 0                 | 0                 | 0                 |
| <b>Total RDTs Available</b>   | <b>45,113,729</b> | <b>46,369,064</b> | <b>48,923,683</b> |
| <b>Total RDT Surplus (Gap)</b>  | <b>20,784,308</b> | <b>20,784,308</b> | <b>22,190,263</b> |

<sup>1</sup> Data shared is from the national quantification conducted in November 2019. The national quantification did not use the demographic method described by PMI. Geographic coverage is estimated as 95% of total population at-risk for malaria.

<sup>2</sup> mRDT needs are calculated based on historical data recorded in HMIS/DHIS2 on mRDTs consumed in OPD, IPD, and ANC, and estimated for interventions such as therapeutic efficacy studies, school malaria parasitological studies, active case detection, and iCCM.

<sup>3</sup> FY 2021 commitments are not firm commitments, the figure which has been put under GF represents what it shows in quantification, but not necessarily what GF has committed to support.

<sup>4</sup> mRDT quantity need exceeds 95% of projected fever cases due to other uses like ANC, SMPS, TES, ACD, and wastage.

| <b>Tanzania (Mainland) - Artemisinin-based Combination Therapy (ACT) Gap Analysis</b>           |                   |                   |                   |
|---|-------------------|-------------------|-------------------|
| <b>Calendar Year</b>  | <b>2020</b>       | <b>2021</b>       | <b>2022</b>       |
| <b>ACT Needs</b>  |                   |                   |                   |
| Total country population  | 55,966,030        | 57,724,380        | 59,517,754        |
| Population at risk for malaria  | 53,167,729        | 54,838,161        | 56,541,866        |
| PMI-targeted at-risk population <sup>1</sup>  | 53,167,729        | 54,838,161        | 56,541,866        |
| Total projected number of malaria cases   | 7,516,449         | 8,238,177         | 8,959,902         |
| <b>Total ACT Needs <sup>2</sup></b>   | <b>9,700,672</b>  | <b>8,251,776</b>  | <b>8,960,702</b>  |
| <b>Partner Contributions (to PMI target population if not entire area at risk) <sup>3</sup></b> |                   |                   |                   |
| ACTs carried over from previous year  | 9,241,736         | 10,792,534        | 2,540,758         |
| ACTs from Government  | 0                 | 0                 | 0                 |
| ACTs from Global Fund   | 11,251,470        | 0                 | 9,395,300         |
| ACTs from other donors  | 0                 | 0                 | 0                 |
| ACTs planned with PMI funding   | 0                 | 0                 | 0                 |
| <b>Total ACTs Available</b>   | <b>20,493,206</b> | <b>10,792,534</b> | <b>11,936,058</b> |
| <b>Total ACT Surplus (Gap)</b>  | <b>10,792,534</b> | <b>2,540,758</b>  | <b>2,975,356</b>  |

<sup>1</sup> Data shared is from the national quantification conducted in November 2019. The national quantification did not use the demographic method described by PMI. Geographic coverage is estimated as 95% of total population at-risk for malaria.

<sup>2</sup> Total ACT needs for Tanzania includes: treatment for uncomplicated malaria, severe malaria cases which needs ACTs to finalize the dose and other malaria interventions like SMPS and TES. ACT needs are calculated based on historical data recorded in HMIS/DHIS2 on ACTs consumed in OPD, IPD, ANC, therapeutic efficacy studies, school malaria parasitological studies, active case detection, and iCCM.

<sup>3</sup> Tanzania's supply chain system requires a minimum of 7 and a maximum of 13 months of stock to ensure consistent supply of commodities. In this table, a "surplus" of approximately one years' worth of product is expected for supply chain functionality.

| <b>Tanzania (Mainland) - Injectable Artesunate Gap Analysis</b> |                  |                  |                  |
|---|------------------|------------------|------------------|
| <b>Calendar Year</b>  | <b>2020</b>      | <b>2021</b>      | <b>2022</b>      |
| <b>Injectable Artesunate Needs</b>                              |                  |                  |                  |
| Projected number of severe cases <sup>1</sup>                   | 302,015          | 291,522          | 281,030          |
| Projected # of severe cases among children                      | 88,473           | 70,038           | 64,637           |
| Projected # of severe cases among adults                        | 213,542          | 221,484          | 216,393          |
| <b>Total Injectable Artesunate Vials Needs <sup>2</sup></b>     | <b>1,750,177</b> | <b>1,689,370</b> | <b>1,628,569</b> |
| <b>Partner Contributions <sup>3</sup></b>                       |                  |                  |                  |
| Injectable artesunate vials carried over from previous year     | 2,247,013        | 1,895,262        | 1,285,139        |
| Injectable artesunate vials from Government                     | 0                | 0                | 0                |
| Injectable artesunate vials from Global Fund                    | 1,398,426        | 1,079,247        | 1,681,533        |
| Injectable artesunate vials from other donors                   | 0                | 0                | 0                |
| Injectable artesunate vials planned with PMI funding            | 0                | 0                | 0                |
| <b>Total Injectable Artesunate Vials Available</b>              | <b>3,645,439</b> | <b>2,974,509</b> | <b>2,966,672</b> |
| <b>Total Injectable Artesunate Vials Surplus (Gap)</b>          | <b>1,895,262</b> | <b>1,285,139</b> | <b>1,338,103</b> |

<sup>1</sup> Data shared is from the national quantification conducted in November 2019. The estimated number of severe cases are projected using historical data recorded in HMIS/DHIS2.

<sup>2</sup> The average number of vials needed per severe case is 6 vials. Total artesunate needs vials are per quantification results

<sup>3</sup> Tanzania's supply chain system requires a minimum of 7 and a maximum of 13 months of stock to ensure consistent supply of commodities. In this table, a "surplus" of approximately one years' worth of product is expected for supply chain functionality.

| <b>Tanzania (Mainland) - Rectal Artesunate Suppository (RAS) Gap Analysis+A1:E16</b>         |                 |                |                |
|--|-----------------|----------------|----------------|
| <b>Calendar Year</b>   | <b>2020</b>     | <b>2021</b>    | <b>2022</b>    |
| <b>Artesunate Suppository Needs</b>  |                 |                |                |
| Number of severe cases expected to require pre-referral dose at community level <sup>1</sup> | 58,982          | 46,692         | 34,402         |
| <b>Total Artesunate Suppository Needs <sup>2</sup></b>                                       | <b>117,964</b>  | <b>93,384</b>  | <b>68,804</b>  |
| <b>Partner Contributions <sup>3</sup></b>  |                 |                |                |
| Artesunate suppositories carried over from previous year                                     | 0               | 0              | 0              |
| Artesunate suppositories from Government   | 0               | 0              | 0              |
| Artesunate suppositories from Global Fund  | 0               | 0              | 0              |
| Artesunate suppositories from other donors   | 0               | 0              | 0              |
| Artesunate suppositories planned with PMI funding  | 0               | 0              | 0              |
| <b>Total Artesunate Suppositories Available</b>  | <b>0</b>        | <b>0</b>       | <b>0</b>       |
| <b>Total Artesunate Suppositories Surplus (Gap)</b>  | <b>-117,964</b> | <b>-93,384</b> | <b>-68,804</b> |

<sup>1</sup> Data shared is from the national quantification conducted in November 2019. For FY 2020 and 2021 estimates, NMCP conducted their first quantification of rectal artesunate. The estimated number of severe cases is projected using historical data recorded in HMIS/DHIS2. The estimate of the number of severe cases in children less than 5 years of age in the public sector assumes 60% of severe cases in the community.

<sup>2</sup> Estimates two suppositories per case. Estimates do not include quantities required to fill commodity pipeline (minimum 7 months and maximum 13 months). The NMCP is awaiting approval from the GoT to implement iCCM and the use of rectal artesunate in select priority regions (see objectives in case management section).

<sup>3</sup> Rectal artesunate is not yet planned for procurement by either the GoT or its partners. Once this intervention is approved by GoT, partners will revisit the needs and jointly plan support.

| <b>Zanzibar - Insecticide-treated Net (ITN) Gap Analysis</b> |                |                |                |
|--|----------------|----------------|----------------|
| <b>Calendar Year</b>   | <b>2020</b>    | <b>2021</b>    | <b>2022</b>    |
| Total targeted population                                    | 1,671,598      | 1,717,608      | 1,762,989      |
| <b>Continuous Distribution Needs</b>                         |                |                |                |
| Channel #1: ANC  | 67,700         | 69,563         | 71,401         |
| Channel #2: EPI  | 53,993         | 55,479         | 56,945         |
| Channel #3: Community  | 166,308        | 0              | 0              |
| Estimated total need for continuous channels                 | 288,000        | 125,042        | 128,346        |
| <b>Mass Campaign Distribution Needs</b>                      |                |                |                |
| 2019/2020/2021 mass distribution campaign(s)                 | 331,610        | 376,887        | 0              |
| Estimated total need for campaigns                           | 331,610        | 376,887        | 0              |
| <b>Total ITN Need: Routine and Campaign</b>                  | <b>619,610</b> | <b>501,929</b> | <b>128,346</b> |
| <b>Partner Contributions</b>                                 |                |                |                |
| ITNs carried over from previous year                         | 0              | 0              | 0              |
| ITNs from MOH  | 0              | 0              | 0              |
| ITNs from Global Fund  | 331,610        | 376,887        | 0              |
| ITNs from other donors                                       | 0              | 0              | 0              |
| ITNs planned with PMI funding                                | 288,000        | 140,884        | 140,884        |
| <b>Total ITNs Available</b>                                  | <b>619,610</b> | <b>517,771</b> | <b>140,884</b> |
| <b>Total ITN Surplus (Gap)</b>                               | <b>0</b>       | <b>15,842</b>  | <b>-12,538</b> |

*Notes:*

- ANC ITN needs are based on pregnant women representing 4.5 percent of the total population annually, and ANC ITN delivery reaching 90 percent of pregnant women annually.
- EPI ITN needs are based on children under one year of age representing 3.8 percent of population annually, and EPI ITN delivery reaching 85 percent of children.
- There will be no community distribution for calendar year 2022 because the mass campaign will be conducted in calendar year 2020 and 2021.
- The ITNs for mass campaign are all procured by Global Fund.

| <b>Zanzibar - Rapid Diagnostic Test (RDT) Gap Analysis</b> |                |                |                |
|--|----------------|----------------|----------------|
| <b>Calendar Year</b>                                       | <b>2020</b>    | <b>2021</b>    | <b>2022</b>    |
| <b>RDT Needs</b>   |                |                |                |
| Total country population                                   | 1,671,598      | 1,717,608      | 1,762,989      |
| Population at risk for malaria <sup>1</sup>                | 1,671,598      | 1,717,608      | 1,762,989      |
| PMI-targeted at-risk population                            | 1,671,598      | 1,717,608      | 1,762,989      |
| Total number of projected fever cases <sup>2</sup>         | 536,375        | 422,024        | 428,161        |
| Percent of fever cases tested with mRDT                    | 70%            | 85%            | 86%            |
| <b>Total RDT Needs</b>                                     | <b>375,463</b> | <b>359,859</b> | <b>369,589</b> |
| <b>Partner Contributions*</b>                              |                |                |                |
| RDTs carried over from previous year                       | 191,745        | 169,558        | 169,579        |
| RDTs from Government                                       | 21,600         | 0              | 0              |
| RDTs from Global Fund                                      | 331,675        | 359,880        | 364,277        |
| RDTs from other donors                                     | 0              | 0              | 0              |
| RDTs planned with PMI funding                              | 0              | 0              | 0              |
| <b>Total RDTs Available</b>                                | <b>545,020</b> | <b>529,438</b> | <b>533,856</b> |
| <b>Total RDT Surplus (Gap)</b>                             | <b>169,558</b> | <b>169,579</b> | <b>164,267</b> |

<sup>1</sup> Geographic coverage: the entire target area at risk (i.e. national quantification). The size based on the 2012 census.

<sup>2</sup> Estimated fever cases (microscope and mRDT) were obtained through facility and community historical data and projected based on population estimates. Of all suspected cases, it is anticipated that 85% and 86% will be tested using mRDTs for year 2021 and 2022.

| <b>Zanzibar - Artemisinin-based Combination Therapy (ACT) Gap Analysis</b> |              |              |              |
|--|--------------|--------------|--------------|
| <b>Calendar Year</b>   | <b>2020</b>  | <b>2021</b>  | <b>2022</b>  |
| <b>ACT Needs</b>   |              |              |              |
| Total country population   | 1,671,598    | 1,717,608    | 1,762,989    |
| Population at risk for malaria   | 1,671,598    | 1,717,608    | 1,762,989    |
| PMI-targeted at-risk population <sup>1</sup>                               | 1,671,598    | 1,717,608    | 1,762,989    |
| Total projected number of malaria cases <sup>2</sup>                       | 6,531        | 5,601        | 4,807        |
| <b>Total ACT Needs <sup>3</sup></b>  | <b>7,184</b> | <b>6,161</b> | <b>5,288</b> |
| <b>Partner Contributions</b>   |              |              |              |
| ACTs carried over from previous year                                       | 0            | 0            | 0            |
| ACTs from Government   | 7,184        | 6,161        | 5,288        |
| ACTs from Global Fund  | 0            | 0            | 0            |
| ACTs from other donors   | 0            | 0            | 0            |
| ACTs planned with PMI funding  | 0            | 0            | 0            |
| <b>Total ACTs Available</b>  | <b>7,184</b> | <b>6,161</b> | <b>5,288</b> |
| <b>Total ACT Surplus (Gap)</b>   | <b>0</b>     | <b>0</b>     | <b>0</b>     |

<sup>1</sup> Geographic coverage: the entire target area at risk (i.e., national quantification).

<sup>2</sup> Estimated malaria cases were derived based on an average increase of 29.5% between 2017-2019 due to various reasons including change in rainfall pattern and low ITNs utilization verbally reported among investigated cases. Same proportion of increase is anticipated for the year 2020. There are plans to intensify malaria interventions including mass distribution of ITNs, foci response, and universal SBCC activities. A decrease of 15% is expected for the year 2021 and 2022.

<sup>3</sup> Total ACT need derived from the actual number of malaria estimated cases from 2019-2022 plus a buffer of 10%. Total ACT need excluded number of patients who will receive treatment in private sector. It includes number of expected cases in public and community.

| <b>Zanibar - Injectable Artesunate Gap Analysis</b>         |              |               |               |
|---|--------------|---------------|---------------|
| <b>Calendar Year</b>  | <b>2020</b>  | <b>2021</b>   | <b>2022</b>   |
| <b>Injectable Artesunate Needs</b>                          |              |               |               |
| Projected number of severe cases <sup>1</sup>               | 666          | 554           | 459           |
| <b>Total Injectable Artesunate vials Needs <sup>2</sup></b> | <b>5,994</b> | <b>4,986</b>  | <b>4,131</b>  |
| <b>Partner Contributions <sup>3</sup></b>                   |              |               |               |
| Injectable vials carried over from previous year            | 9            | 15            | 0             |
| Injectable vials from Government <sup>4</sup>               | 6,000        | 0             | 0             |
| Injectable vials from Global Fund                           | 0            | 0             | 0             |
| Injectable vials from other donors                          | 0            | 0             | 0             |
| Injectable vials planned with PMI funding                   | 0            | 0             | 0             |
| <b>Total Injectable Artesunate Vials Available</b>          | <b>6,009</b> | <b>15</b>     | <b>0</b>      |
| <b>Total Injectable Artesunate Vials Surplus (Gap)</b>      | <b>15</b>    | <b>-4,971</b> | <b>-4,131</b> |

<sup>1</sup> Data source: estimates of severe cases are based on historical data recorded in the Zanzibar HMIS/DHIS2.

<sup>2</sup> ZAMEP assumes a need for 9 vials of artesunate injection per severe case of malaria which is a minimum dose within 24 hours for a patient weighing 60 kg.

<sup>3</sup> Please note, the quantification for 2021 and 2022 is ongoing.

<sup>4</sup> Injectable artesunate is normally procured by government. So far for 2021 and 2022, there is no firm commitment from the government. For this reason, the figures appear as zero.

## **Annex B. Program Inventory**

**Tanzania (Mainland) - Vector Control**

| Activity                        | Metrics/Criteria                  | Relative Continuum                             |  |   |   |  | Estimate Level |
|---------------------------------|-----------------------------------|--|--|---|---|--|----------------|
|                                 |                                   | 1  | 2  | 3   | 4   | 5  |                |
| <b>Entomological Monitoring</b> | Insecticide Resistance monitoring | No insecticide resistance monitoring conducted | Limited insecticide resistance monitoring conducted on an ad-hoc basis   | Insecticide Resistance monitoring conducted on an annual basis in a limited number of sites, not covering all administrative units. Occasional monitoring of molecular mechanisms | Insecticide resistance monitoring conducted in a greater number of sites on an annual basis with some collaboration with other partners, routine monitoring of some resistance mechanisms | Regular high quality insecticide resistance monitoring done in multiple sites per administrative division, consideration of molecular mechanisms and bioassay data, collaboration with other partners and NMCP | 4              |
| <b>Entomological Monitoring</b> | Insectary                         | No functioning insectaries in country          | Insectary present, but frequent ruptures in rearing and contamination of strains, frequent challenges in meeting needs | Insectary present, full-time staff present, some capacity for strain verification, sometimes challenges to get enough mosquitoes, occasional contamination                        | One or more insectary present, regular verification, rare challenges in getting sufficient mosquitoes, some capacity for strain verification  | Highly functioning insectaries with verification of strains, capacity for rearing wild strains, quality controls in place  | 4              |

|                                 |  |  |  |  |  |  |   |
|---------------------------------|--|--|--|--|--|--|---|
| <b>Entomological Monitoring</b> | Data-based vector control decision making                              | No consideration of entomological data when making decisions | Limited review of data, reliance on outdated data, uncoordinated analysis of data with limited collaboration with partners | Irregular and incomplete review of data from multiple partners, sometimes in collaboration with research and funding partners                  | Collaborative but irregular review of entomological data, sometimes providing timely evidence for decisions  | Collaborative regular review of entomological data from multiple sources when making decisions about vector control                                    | 4   |
| <b>Entomological Monitoring</b> | Vector bionomics monitoring or research                                | No research or longitudinal monitoring done in country       | Limited longitudinal monitoring and research done in country   | Regular vector bionomics monitoring and vector control research done in country, but generally not having an important role in decision making | Regular vector bionomics and vector control research conducted in country but not sufficient to respond to all major needs of the national program | Regular monitoring driven by program priorities conducted alongside research done in country to provide timely data on the best malaria vector control | 4   |
| <b>Entomological Monitoring</b> | Institutionalization of funding  | No resources   | Only supported by external partners, no host government funding  | Some host country government funding   | >50% funded by host country government   | Fully funded by host country government  | 3   |
| <b>ITNs</b>                     | Consistent distribution channels, in accordance with national strategy | Infrequent campaigns with no continuous distribution         | Regular (e.g., every 3 years) campaigns, no continuous distribution  | Regular campaigns, inconsistent continuous distribution  | Regular campaigns, plus at least 1 well-managed continuous distribution channel  | Regular, well-executed campaigns and well-managed continuous distribution channels   | 4   |
| <b>ITNs</b>                     | Regular supervision of routine ITN distribution (e.g. HFs)             | No HFs regularly supervised in ITN distribution              | 0-25% of HFs regularly supervised in ITN distribution  | 25-50% of HFs regularly supervised in ITN distribution   | 50-75% of HFs regularly supervised in ITN distribution   | 75-100% of HFs regularly supervised in ITN distribution  | 5 - Only applicable to PMI-supported regions (14) |

|             |   |  |   |   |  |   |   |
|-------------|---|--|---|---|--|---|---|
| <b>ITNs</b> | ITN distribution reporting capabilities                                   | Quantities of ITNs distributed not reported at all into LMIS (or other system) | Some quantities of ITNs distributed reported routinely  | Some quantities of ITNs distributed reported routinely but cannot be disaggregated by channel | Quantities of ITNs distributed reported routinely and disaggregated by channel   | All ITNs distributed captured routinely, disaggregated, and reported electronically | 5 - Only applicable to PMI-supported regions (14) |
| <b>ITNs</b> | Capacity to use data to appropriately target and rotate new types of nets | N/A  | No capacity   | Limited capacity  | Some capacity  | Good capacity   | 5   |
| <b>IRS</b>  | Host country government's IRS implementation capacity                     | N/A, no host country government implemented spray campaign                     | Host country government has very limited capacity to implement minor aspects of spray campaign          | Host country government has capacity to implement some aspects of spray campaign              | Host country government has capacity to implement most aspects of spray campaign | Host country government implements independent spray campaign                       | 3   |
| <b>IRS</b>  | Institutionalization of funding   | N/A, no IRS conducted in country   | No host country government funding, only supported by external sources (e.g. PMI, GF, mining companies) | Limited host country government funding in addition to external sources                       | >50% funded by host country government in addition to external sources           | Fully funded by host country government, no external sources                        | 2   |
| <b>IRS</b>  | Coverage of Government-Implemented Spray Campaign                         | N/A, no government-implemented spray campaign                                  | Spray coverage not reported   | 85+% coverage in some government-sprayed areas  | 85+% coverage in most government-sprayed areas                                   | 85+% coverage in all government-sprayed areas                                       | 1   |

**Tanzania (Mainland) - Case Management**

| Activity                     | Metrics/Criteria   | Relative Continuum                       |   |   |  |  | Estimate Level   |
|------------------------------|--|--|---|---|--|--|--|
|                              |  | 1  | 2   | 3   | 4  | 5  |  |
| <b>Community-based (N/A)</b> | Coverage of CHWs trained in and providing CM (geographic or numerical target)            | No CHWs conducting CM                    | 0-25% of national target met                                    | 25-50% of national target met   | 50-75% of national target met  | 75-100% of national target met                                   | 1 - CCM not currently in national strategy; pilots are under consideration |
| <b>Community-based (N/A)</b> | Regular supervision of CHWs in CM (regular defined as per national QA/QC guidelines)     | No CHWs regularly supervised in CM       | 0-25% of CHWs regularly supervised in CM                        | 25-50% of CHWs regularly supervised in CM   | 50-75% of CHWs regularly supervised in CM  | 75-100% of CHWs regularly supervised in CM                       | 1  |
| <b>Community-based (N/A)</b> | CHW reporting capabilities   | CHW-managed cases not reported into HMIS | Some CHW-managed cases routinely reported into HMIS             | Cases routinely reported into HMIS but cannot be disaggregated from HF-reported cases | Cases routinely reported into HMIS and can be disaggregated from HF-reported cases | All CHW case data routinely captured and reported electronically | 1  |
| <b>Community-based (N/A)</b> | Institutionalization of funding (salaries and/or other support)                          | No resources                             | Only supported by external partners, no host government funding | Some host country government funding  | >50% funded by host country government   | Fully funded by host country government                          | 2  |
| <b>Facility-based</b>        | Access to HF-based care (within 5 km of a health facility or as per national definition) | 0-20% of population has access to HF     | 20-40% of population has access to HF                           | 40-60% of population has access to HF   | 60-80% of population has access to HF  | >80% of population has access to HF                              | 5  |
| <b>Facility-based</b>        | Regular* supervision of public HFs in CM   | No HFs regularly supervised in CM        | 0-25% of HFs regularly supervised in CM                         | 25-50% of HFs regularly supervised in CM  | 50-75% of HFs regularly supervised in CM   | 75-100% of HFs regularly supervised in CM                        | 3 - Coverage varies by region and availability of support                  |

|                       |                            |                                  |   |   |  |  |   |
|-----------------------|----------------------------|----------------------------------|---|---|--|--|---|
| <b>Facility-based</b> | Drug resistance monitoring | No TES performed in last 3 years | TES performed in last 3 years but results not available | Recent TES results available (within last 3 years) but no training in molecular testing | Recent TES results available (within last 3 years) and in-country staff trained in molecular testing | Recent TES results available (within last 3 years) and in-country capability for molecular testing | 5 |
|-----------------------|----------------------------|----------------------------------|---|---|--|--|---|

**Tanzania (Mainland) - Drug-Based Prevention**

| Activity   | Metrics/Criteria  | Relative Continuum |   |   |   |   | Estimate Level |
|------------|---|--------------------|---|---|---|---|----------------|
|            |   | 1                  | 2   | 3   | 4   | 5   |                |
| <b>MIP</b> | National policy exists for malaria prevention in pregnancy                                | No policy          | Policy exists but is not comprehensive (does not cover all aspects of MIP: ITN, IPTp and case management) | Comprehensive policy exists for prevention (ITNs, IPTp) and case management but not all WHO recommendations are included                          | Policy meets current WHO recommended MIP prevention   | Comprehensive, WHO-aligned policy is actively implemented   | 5              |
| <b>MIP</b> | Country policy adoption/adaptation of ANC guidelines with at least 4 recommended contacts | No policy          | Country has started discussions and consultations for adopting the new ANC guidelines and recommendations | Country has policy specifying ANC contacts but no provision for early delivery of IPTp and is not able to systematically track ANC visits in HMIS | Country policy specifies ANC contacts and has provision for delivery of IPTp at 13-16 weeks but cannot track all ANC visits in HMIS | Country policy specifies the number of contacts to be delivered during pregnancy and has a provision for delivery of IPTp at 13-16 weeks and is able to track ANC visits in HMIS. | 4              |

|            |   |                                       |   |  |   |   |   |
|------------|---|---------------------------------------|---|--|---|---|---|
| <b>MIP</b> | National MIP working group established and coordinating effectively | No working group established          | Working group formed and meets on an ad hoc basis, TORs are established | Working group engages in regular coordination but does not have mechanisms to ensure programmatic integration across technical areas | Working group coordinates at the national level only with Malaria and Maternal Health and has limited mechanisms for ensuring programmatic integration across technical areas | Working group engages in regular coordination at national and sub-national level with Malaria and Maternal Health and has mechanisms to ensure programmatic integration across technical areas. | 4                                       |
| <b>MIP</b> | Supportive MIP supervision conducted                                | No HFs regularly supervised in MIP    | 0-25% of HFs regularly supervised in MIP                                | 25-50% of HFs regularly supervised in MIP  | 50-75% of HFs regularly supervised in MIP   | 75-100% of HFs regularly supervised in MIP  | 3 -<br><i>Coverage varies by region</i> |
| <b>MIP</b> | Routine SP resistance monitoring via biomarkers conducted           | No SP resistance monitoring conducted | SP resistance monitoring conducted in the last 6-10 years               | SP resistance monitoring conducted in the last year 4-5 years  | SP resistance monitoring conducted in the last year 3 years   | SP resistance monitoring conducted in the last 3 years and results published or being published.  | 4 - <i>Activity ongoing</i>             |

**Tanzania (Mainland) - Supply Chain**

| Activity            | Metrics/<br>Criteria                 | Relative Continuum   |   |  |  |   | Estimate<br>Level |
|---------------------|--------------------------------------|--|---|--|--|---|-------------------|
|                     |                                      | 1  | 2   | 3  | 4  | 5   |                   |
| <b>Supply Chain</b> | Forecasting and Procurement Planning | Ad hoc forecasting based on poor, inadequate, or inaccessible data. Insufficient skills for selecting and implementing appropriate forecasting methodologies. Procurement plans are not developed from forecasts. No coordination among procurers. | Annual forecasting and supply planning done but is based on poor, inadequate, or inaccessible data. Locally based skills in quantification are developing. Review of procurement plans is irregular. Coordination among procurers is limited. | Annual forecasts incorporate service and/or/consumption data. Supply plans updated semi-annually and incorporate review/revisions of available funding. Coordinated procurement planning done at the national level (and regional level, if the health system is decentralized) and among procurers. | Semi-annual forecasts incorporate service and/or/consumption data, account for seasonality. Supply plans updated quarterly and incorporate review/revisions of available funding. Coordinated procurement planning done at the national level (and regional level, if the health system is decentralized). Identified commodity gaps effectively communicated to stakeholders for purposes of resource mobilization. | Near real-time demand/consumption, enhanced with additional programmatic contributions, drives monthly forecasting. Forecasting and supply planning-specific software used and outputs visible across networks. Supply plans updated monthly and incorporate review/revisions of available funding. Coordinated procurement planning done at the national level (and regional level, if the health system is decentralized). Identified commodity gaps effectively communicated to stakeholders for purposes of resource mobilization. Outputs shared through global platforms. | 3                 |

|                            |                                 |   |  |  |   |  |          |
|----------------------------|---------------------------------|---|--|--|---|--|----------|
| <p><b>Supply Chain</b></p> | <p>Warehousing/<br/>Storage</p> | <p>Quality of infrastructure and operations at all stock holding levels (Central, Sub-central/facility) compromises ability to ensure commodities are adequately protected from damage, deterioration and loss. Unable to locate stock by batch in central/mid-level stores/warehouses.</p> | <p>Quality of infrastructure and operations in at least one stock holding level (Central, Sub-central/facility) ensures that commodities are adequately protected from damage, deterioration and loss. Paper-based inventory management system. No SOPs.</p> | <p>Quality of infrastructure and operations in at least two stock holding levels (Central, Sub-central/SDP) ensures that commodities are adequately protected from damage, deterioration and loss. Warehousing SOPs exist. Able to track inventory level with central level WMS but information is not routinely shared across warehouses. Some maintenance occurring. Limited ability to scale storage capacity</p> | <p>Quality of infrastructure and operations at all stock holding levels (Central, Sub-central/SDP) ensures that commodities are adequately protected from damage, deterioration and loss. Stock data is digitized in at least two stock holding levels. Some routine maintenance occurring. Storage capacity scaled through contracting of third party logistics providers (3PLs)</p> | <p>Quality of infrastructure and operations at all stock holding levels (Central, Sub-central/SDP) ensures that commodities are adequately protected from damage, deterioration and loss. Storage infrastructure and operations adhere to Good Warehousing Practices and/or meet in-country compliance standards. Stock data is digitized at all stock holding levels and near real-time stock visibility available across networks. Routine and predictive maintenance budgeted for and institutionalized. Storage capacity is logically located and can be effectively scaled with 3PLs.</p> | <p>3</p> |
|----------------------------|---------------------------------|---|--|--|---|--|----------|

|                            |   |  |   |  |  |  |          |
|----------------------------|---|--|---|--|--|--|----------|
| <p><b>Supply Chain</b></p> | <p>Routine distribution/resupply between stock holding levels</p> | <p>No routine requisition and resupply schedule between stock holding levels. No resources routinely available and allocated for transportation from higher to lower stock holding levels.</p> | <p>Routine requisition and resupply between at least two stock holding levels according to a schedule. Resources for transportation from higher to lower stock holding levels provided on ad hoc basis.</p> | <p>Routine resupply between all stock holding levels according to a schedule. Allocated resources for transportation from higher to lower stock holding levels provided on an irregular basis and resupply often achieved through unplanned means. Resupply performance monitored post-activity.</p> | <p>Routine resupply between all stock holding levels according to a schedule shared with all levels and informed by accurate demand signals. Allocated resources for transportation provided on a regular basis and augmented with 3PLs. Resupply performance monitored real-time.</p> | <p>Routine resupply between all stock holding levels according to a schedule shared with all levels and informed by accurate, timely, demand signals. Robust emergency and inter-facility resupply mechanisms are in place. Allocated resources for transportation available internally or outsourced with 3PLs. Resupply transaction data is digitized for all stock transfers. Near real-time visibility into upstream and downstream activities. Resupply operations adhere to GDP and or meet in-country compliance standards for maintaining quality during distribution.</p> | <p>3</p> |
|----------------------------|---|--|---|--|--|--|----------|

|              |   |  |   |   |  |   |   |
|--------------|---|--|---|---|--|---|---|
| Supply Chain | Logistics Management Information System | System to aggregate, analyze, validate and display data (from all levels of the logistics system) that can be used to make logistics decisions and manage the supply chain not institutionalized or followed. No facility level records or not maintained. Low reporting rates. No visibility into CHW supplies. No visibility by central level on facilities and none by facility level on central level. | Stand-alone, program specific LMIS processes and structures defined but no formal or ongoing monitoring or measurement protocol exists. Some visibility of facility level inventory and consumption, low reporting rates, mostly paper-based. | The country has documented LMIS processes and structures. The structures are functional. Metrics for performance monitoring, quality improvement, and evaluation are systematically used. Migration of data collection and reporting from a paper system to an electronic system at the district level and above. A documented mechanism is in place for maintaining data quality throughout the data supply chain. | Government and stakeholders use the national LMIS systems for key performance monitoring and follow standard practices. Facility inventory and consumption data is digital at facility level, upstream data available to facilities. System alerts for low stock/expiry, use of master product list and master facility list. Interoperability with other information systems (e.g., warehouse management, medical records, laboratory management, enterprise resource planning systems, and health information management systems). | Near real time visibility into inventory and consumption data at all levels, data from multiple systems feed into common platform/control tower (automated process), predictive analytics. The government and stakeholders routinely review interoperability activities and modify them to adapt to changing conditions. Compliance with standards for data exchange, messaging, and security is regularly reviewed. The regulatory framework is reviewed and updated to reflect best practices for data exchange, messaging, and systems security. | 3 |
|--------------|---|--|---|---|--|---|---|

|                            |  |  |   |  |  |  |          |
|----------------------------|--|--|---|--|--|--|----------|
| <p><b>Supply Chain</b></p> | <p>Regulatory, Policy and Governance</p> | <p>Legal basis to enable a medicines (and related health commodities - e.g., devices, vaccines, etc) regulatory agency to function is absent or inappropriate. Formal organizational structure regarding in-country stakeholders and relevant agencies to whom authority is delegated, is absent or inadequate (e.g., up-to-date organogram of MOH). Human and financial capacity to enable regulatory functionality, weak or absent. No approved supply chain strategic plan.</p> | <p>Medicines framework exists and is sufficient to support basic regulatory functions including clinical dossier review (licensing) and marketing authorization with registration. Documented domestic financial support to enable regulatory activities - including human resources. Approved supply chain strategic plan but not updated recently. Poorly implemented strategic plan.</p> | <p>All SDP levels have in place policies that address STG, quality assurance and HR. Management policies for the supply chain system are in place at the MOH level. Policy and strategic leadership is not always translated into robust implementation plans, and supportive supervision, capacity building and guidance to managers within the system. No consistent approach to pharmacovigilance or a standard reporting structure for pharmacovigilance events. Overall quality management system in place to support interface of product licensing, registration, manufacturing, post-marketing surveillance. Approved (and up to date) supply chain strategic plan. Partially implemented.</p> | <p>Strong policy and strategic leadership by government, with firm grasp of budgets and financial sustainability Robust implementation plans, and supportive supervision, capacity building and guidance to managers within the system. Regulatory and policy bodies in alignment to support quality product availability. National and standardized Pharmacovigilance or a standard reporting structure for pharmacovigilance events in place, not fully functional. Approved (and up to date) supply chain strategic plan (contains clear roles and responsibilities, stakeholder mapping, costs).</p> | <p>The MOH leads strategic functions such as, policy formulation, quality assurance and overseeing the funds required for policy implementation. Ability to ensure product quality, automated drug registration process, clear/transparent importation process, robust post-market surveillance system and, track and trace regulations developed and/or in the process of implementation. Approved (and up to date) supply chain strategic plan (contains clear roles and responsibilities, stakeholder mapping, costs). Includes risk mitigation plan.</p> | <p>2</p> |
|----------------------------|--|--|---|--|--|--|----------|

| Tanzania (Mainland) - Strategic Information            |   |   |  |   |  |   |                |
|--|---|---|--|---|--|---|----------------|
| Activity   | Metrics/Criteria  | Relative Continuum  |  |   |  |   | Estimate Level |
|  |   | 1   | 2  | 3   | 4  | 5   |                |
| <b>Data, Surveillance, Monitoring &amp; Evaluation</b> | Overall HMIS reporting rate (CY 2018)   | <60%  | 60-69%   | 70-79%  | 80-89%   | 90%+  | 5              |
| <b>Data, Surveillance, Monitoring &amp; Evaluation</b> | Element specific reporting rate: "Confirmed malaria cases among children under 5" (CY 2018) | <60%  | 60-69%   | 70-79%  | 80-89%   | 90%+  | 5              |
| <b>Data, Surveillance, Monitoring &amp; Evaluation</b> | HMIS data quality assurance and quality control   | Few standards exist for data collection, assembly, & analysis. Data quality reviews and audits are ad hoc for specific data needs. No data-quality assurance plan and national coordinating body exist. | Standards used for data collection, assembly & analysis in limited settings. Some electronic tools used for data quality review and audit. Data-quality assurance plan is available. | Standards defined and implemented for data collection, assembly, analysis, and used nationally. Data quality reviews and audits scheduled and include a remediation process to address identified issues. SM&E staff are seconded to NMCP | Data reviews and audits are integrated in strategic plans, conducted on a regular schedule. Regular meetings held by national data-quality governing body; issues identified are addressed through an established remediation process. | Continuous review and auditing through automated and manual processes, to ensure defined levels of data quality. Data quality metrics are used for continuous improvement. The data-quality assurance plan is reviewed periodically by a national coordinating body and appropriate stakeholders. | 3              |

|   |                          |  |  |  |  |  |          |
|---|--------------------------|--|--|--|--|--|----------|
| <p><b>Data, Surveillance, Monitoring &amp; Evaluation</b></p> | <p>Reporting Systems</p> | <p>Data collection tools are not standard and procedures are not consistently followed; data are collected and stored in an unstructured format. NMCP does not have access to malaria data from HMIS.</p>        | <p>Data systems support longitudinal health data (clinical, surveillance, M&amp;E) in limited settings. The data are available for centrally mandated reporting. A parallel malaria reporting system may exist.</p>                        | <p>Most data platforms/applications ensure data availability at all levels for decision support and M&amp;E for authorized users. No parallel malaria reporting system exists. NMCP has access to malaria data from HMIS.</p>          | <p>The data systems in use ensure reliable and appropriate access to data at all levels for authorized users. Changes in reporting requirements are accommodated with minimal disruption to data availability. Data systems support secondary use of data and NMCP has access.</p> | <p>Data availability is monitored for continuous improvements and to meet emerging health sector needs. Reporting is available from private facilities and community-level providers and can be disaggregated.</p>                                       | <p>4</p> |
| <p><b>Data, Surveillance, Monitoring &amp; Evaluation</b></p> | <p>Data collection</p>   | <p>Data collection is not done at the most peripheral level (CHWs) and is irregular and inaccurate at rural and more central health facilities. System is entirely paper based, but registers may be absent.</p> | <p>Data collection is well managed at HF level, but incomplete at community level (CHWs); most collection is paper based and aggregation is paper based; registers generally available; timeliness and completeness remain challenges.</p> | <p>Data collection is well managed at HF level and at community level (CHWs); most collection is paper based, aggregation is electronic; registers available; timeliness and completeness &gt;80%, feedback to collectors limited.</p> | <p>Data collection at all levels); collection is electronic and sometimes paper based, aggregation is electronic; registers include all program-critical data; timeliness and completeness &gt;80%, feedback to collectors is standardized.</p>                                    | <p>Data collection occurs at all levels, is transmitted in real time with timely feedback to those collecting and those using the data; data checks exist at point of collection; electronic transmission is the norm, including to data collectors.</p> | <p>3</p> |

|  |                                     |   |  |  |   |   |   |
|--|-------------------------------------|---|--|--|---|---|---|
| <b>Data, Surveillance, Monitoring &amp; Evaluation</b> | Data use                            | Activities (analysis, interpretation, visualization) to ensure data use are rarely implemented. | Limited data use activities are implemented (bulletin has been developed but analysis and interpretation for decision- making needs to be strengthened). | Country conducts regular data use activities (review meetings, bulletin at least quarterly, at least at the central level).    | Country conducts regular data use activities at all levels (review meetings, bulletins, dashboard at least quarterly).      | Country has developed their own high- quality dashboard to facilitate data use, and data-informed decision making is evident at all levels, on a frequent basis.                      | 3 |
| <b>OR/PE</b>   | PMI in-country OR experience        | No previous PMI OR experience in country.   | PMI team has prepared concept notes (CNs) but has not completed protocols or conducted OR.   | PMI team has completed protocols and received approval for OR; studies in planning, underway, or recently completed.           | PMI team and/or other country partners have completed a OR study and prepared and shared reports.                           | Multiple OR studies completed in country that address malaria program implementation bottlenecks with publication and sharing of results, with involvement from MOH co-investigators. | 5 |
| <b>OR/PE</b>   | Country mechanisms for OR/PE review | No in-country process for research review, determination or IRB processes.                      | Limited in-country processes for research review, determination and IRB oversight.   | Processes in place for research and IRB review with federal-wide assurance approval; no previous PMI in-country OR experience. | Processes in place for research and IRB review with federal-wide assurance approval; previous PMI in-country OR experience. | Full complement of research review, approval, oversight processes including data safety and monitoring boards and systems for results sharing.  | 5 |

|              |   |  |  |   |   |   |   |
|--------------|---|--|--|---|---|---|---|
| <b>OR/PE</b> | In-country partnerships for OR                              | No in-country partners (academic, NGO, or other) with OR experience. | 1-2 in-country partners with OR experience, but no malaria specific experience.      | 3+ in-country partners with OR experience; 1+ with some malaria expertise; no current PMI-linked OR work. | 3+ in-country partners with OR experience; 1+ with malaria expertise; current or recent work with PMI OR. | Multiple in-country partners with specific malaria experience in PMI OR, including completed past work and reporting on malaria OR. | 5 |
| <b>OR/PE</b> | Conceptualization of problems needing scientific evaluation | No experience.   | Some but limited experience in identifying programmatic problems and prioritization. | Experience with identifying program problems and prioritizing PE and OR.                                  | Experience with identifying problems needing PE or OR and developing study approaches with partners.      | Extensive experience with problem identification, prioritization, proposal development and conducting PE or OR.                     | 4 |

**Tanzania (Mainland) - Support Systems**

| Activity   | Metrics/Criteria   | Relative Continuum                 |   |   |  |  | Estimate Level |
|------------|--|------------------------------------|---|---|--|--|----------------|
|            |  | 1                                  | 2   | 3   | 4  | 5  |                |
| <b>SBC</b> | National Malaria SBCC Strategy used to guide design and implementation of malaria SBC activities | No strategy exists.                | Strategy exists but there is no evidence that it has been used to guide design or implementation. | Strategy exists and is used from time-to-time to guide design and implementation, but is of poor quality and does not include any of the key elements identified in the RBM SBCC Working Group National Malaria SBCC Strategy Template. | Strategy is used from time-to-time to guide design and implementation, but lacks alignment with the broader National Malaria Strategy and only incorporates a couple of the key elements identified in the RBM SBCC Working Group National Malaria SBCC Strategy Template. | Strategy is well aligned with the broader National Malaria Strategy, includes the key elements identified in the RBM SBCC Working Group National Malaria SBCC Strategy Template, and is used to guide design and implementation. | 4              |
| <b>SBC</b> | SBC Technical Working Group coordinates effectively  | No technical working group exists. | The SBC Technical Working Group exists on paper, but has not been operationalized.                | The SBC Technical Working Group has significant resource and staffing gaps and does not have clear pathways for coordination.   | The SBC Technical Working Group lacks some needed resources/staff and generally only coordinates at the national level only.   | The SBC Technical Working Group is well resourced and staffed and engages in regular coordination at both the national and sub-national level.   | 4              |

|  |   |  |  |   |  |  |   |
|--|---|--|--|---|--|--|---|
| <b>SBC</b>                                     | High-quality formative assessments used to inform intervention design | No high-quality, formative assessment conducted in the last five years.  | Formative assessment conducted, but significant quality issues in the design and no evidence that data was used to inform intervention design. | High-quality, formative assessment conducted, but no evidence that data was used to inform intervention design.                         | Data from prior projects used exclusively to guide intervention design; no new data collected.   | High-quality, formative assessment conducted and data used to inform intervention design.                      | 5   |
| <b>Elimination</b>                             | Elimination planning to implementation                                | No elimination or pre-elimination targets in the national strategic plan | Risk stratification conducted using latest incidence data and interventions targeted   | Readiness assessment/ capacity inventory conducted  | Capacity built and systems in place to initiate elimination activities   | Elimination activities implemented fully in targeted areas   | 2   |
| <b>Elimination</b>                             | Surveillance system readiness to track all cases                      | Monthly, aggregate data from public sector only                          | At least monthly, aggregate data from public, private, and community levels  | Case-based reporting initiated  | Real-time, case-based surveillance inclusive of all sectors and levels in targeted areas   | Real-time, case-based reporting and response activities implemented  | 1 - Case-based surveillance plans for low burden areas are underway |
| <b>Additional Health Systems Strengthening</b> | Staffing  | No staff   | Manager and a few technical staff; not all intervention areas are covered  | Manager and technical staff for each intervention area; many staff have limited training and experience ; limited program support staff | Full staffing of program areas and support systems but some staff need further training to optimize their effectiveness; limited plans and opportunities for such training | Fully staffed with personnel with relevant training and experience; complete plan for professional development | 4   |

|  |  |  |   |   |  |   |   |
|--|--|--|---|---|--|---|---|
| <b>Additional Health Systems Strengthening</b> | Office space, transport                  | No office space or transport                           | Office space exists but is insufficient for staff; Transport available at intervals but limited for program needs | Office space adequate for current staff but no growth possible; office not well positioned for access to MOH leadership. Transport available but not covering all needs and not well managed/maintained | Office space adequate for current staff and some technical areas (e.g., lab) but not fully adequate for growth and all technical services. Transport covers most needs.    | Office space is fully adequate for current staff and technical needs (lab, insectary, meeting space, etc.) and some growth and well positioned in the MOH; Transport is fully available for needed purposes -- trucks and 4-wheel drive vehicles where needed - all maintained and managed. | 2 |
| <b>Additional Health Systems Strengthening</b> | Internet connectivity                    | No Internet connectivity                               | Intermittent connectivity; poor bandwidth; challenging maintenance; very little budget                            | Mostly connected with some outages; ok but not ideal bandwidth; irregular maintenance; modest budget  | Generally stable connections, adequate bandwidth for most work, fair to good maintenance and sufficient budget   | Fully connected, maintained, good bandwidth for all needs, and sufficient budget including all needed hardware and software   | 4 |
| <b>Additional Health Systems Strengthening</b> | NMCP placement within Ministry of Health | NMCP exists but is barely visible in the MOH structure | NMCP is visible in the MOH structure but NMCP manager reports to supervisor who is still low in the MOH system    | NMCP is visible and manager reports to high level leader in MOH (e.g., Director of Public Health or Permanent Secretary for Health)   | NMCP (or NMEP) is highly visible and reports at a high level in MOH and has some access to other ministry leadership (e.g., education, agriculture, community development) | NMCP (or NMEP) is highly visible within MOH and with all other relevant ministries and has ready access to country leadership (e.g., the president/prime minister; and parliament)  | 4 |

**Zanzibar - Vector Control**

| Activity                        | Metrics/Criteria                          | Relative Continuum   |  |   |   |  | Estimate Level |
|---------------------------------|---|--|--|---|---|--|----------------|
|                                 |   | 1  | 2  | 3   | 4   | 5  |                |
| <b>Entomological Monitoring</b> | Insecticide Resistance monitoring         | No insecticide resistance monitoring conducted               | Limited insecticide resistance monitoring conducted on an ad-hoc basis   | Insecticide Resistance monitoring conducted on an annual basis in a limited number of sites, not covering all administrative units. Occasional monitoring of molecular mechanisms | Insecticide resistance monitoring conducted in a greater number of sites on an annual basis with some collaboration with other partners, routine monitoring of some resistance mechanisms | Regular high quality insecticide resistance monitoring done in multiple sites per administrative division, consideration of molecular mechanisms and bioassay data, collaboration with other partners and NMCP | 3              |
| <b>Entomological Monitoring</b> | Insectary                                 | No functioning insectaries in country                        | Insectary present, but frequent ruptures in rearing and contamination of strains, frequent challenges in meeting needs     | Insectary present, full-time staff present, some capacity for strain verification, sometimes challenges to get enough mosquitoes, occasional contamination                        | One or more insectary present, regular verification, rare challenges in getting sufficient mosquitoes, some capacity for strain verification  | Highly functioning insectaries with verification of strains, capacity for rearing wild strains, quality controls in place  | 4              |
| <b>Entomological Monitoring</b> | Data-based vector control decision making | No consideration of entomological data when making decisions | Limited review of data, reliance on outdated data, uncoordinated analysis of data with limited collaboration with partners | Irregular and incomplete review of data from multiple partners, sometimes in collaboration with research and funding partners   | Collaborative but irregular review of entomological data, sometimes providing timely evidence for decisions   | Collaborative regular review of entomological data from multiple sources when making decisions about vector control  | 4              |

|                                 |  |  |   |  |  |  |   |
|---------------------------------|--|--|---|--|--|--|---|
| <b>Entomological Monitoring</b> | Vector bionomics monitoring or research                                | No research or longitudinal monitoring done in country                         | Limited longitudinal monitoring and research done in country        | Regular vector bionomics monitoring and vector control research done in country, but generally not having an important role in decision making | Regular vector bionomics and vector control research conducted in country but not sufficient to respond to all major needs of the national program | Regular monitoring driven by program priorities conducted alongside research done in country to provide timely data on the best malaria vector control | 4 |
| <b>Entomological Monitoring</b> | Institutionalization of funding  | No resources   | Only supported by external partners, no host government funding     | Some host country government funding   | >50% funded by host country government   | Fully funded by host country government  | 3 |
| <b>ITNs</b>                     | Consistent distribution channels, in accordance with national strategy | Infrequent campaigns with no continuous distribution                           | Regular (e.g., every 3 years) campaigns, no continuous distribution | Regular campaigns, inconsistent continuous distribution  | Regular campaigns, plus at least 1 well-managed continuous distribution channel  | Regular, well-executed campaigns and well-managed continuous distribution channels   | 5 |
| <b>ITNs</b>                     | Regular supervision of routine ITN distribution (e.g. HFs)             | No HFs regularly supervised in ITN distribution                                | 0-25% of HFs regularly supervised in ITN distribution               | 25-50% of HFs regularly supervised in ITN distribution   | 50-75% of HFs regularly supervised in ITN distribution   | 75-100% of HFs regularly supervised in ITN distribution  | 5 |
| <b>ITNs</b>                     | ITN distribution reporting capabilities                                | Quantities of ITNs distributed not reported at all into LMIS (or other system) | Some quantities of ITNs distributed reported routinely              | Some quantities of ITNs distributed reported routinely but cannot be disaggregated by channel  | Quantities of ITNs distributed reported routinely and disaggregated by channel   | All ITNs distributed captured routinely, disaggregated, and reported electronically  | 5 |

|             |   |  |   |  |  |   |   |
|-------------|---|--|---|--|--|---|---|
| <b>ITNs</b> | Capacity to use data to appropriately target and rotate new types of nets | N/A  | No capacity   | Limited capacity   | Some capacity  | Good capacity   | 4   |
| <b>IRS</b>  | Host country government's IRS implementation capacity                     | N/A, no host country government implemented spray campaign | Host country government has very limited capacity to implement minor aspects of spray campaign          | Host country government has capacity to implement some aspects of spray campaign | Host country government has capacity to implement most aspects of spray campaign | Host country government implements independent spray campaign | 4 - <i>Despite of the country capacity in conducting IRS external funding is still needed</i> |
| <b>IRS</b>  | Institutionalization of funding   | N/A, no IRS conducted in country                           | No host country government funding, only supported by external sources (e.g. PMI, GF, mining companies) | Limited host country government funding in addition to external sources          | >50% funded by host country government in addition to external sources           | Fully funded by host country government, no external sources  | 3   |
| <b>IRS</b>  | Coverage of Government-Implemented Spray Campaign                         | N/A, no government-implemented spray campaign              | Spray coverage not reported   | 85+% coverage in some government-sprayed areas                                   | 85+% coverage in most government-sprayed areas                                   | 85+% coverage in all government-sprayed areas                 | 1   |

| Zanzibar - Case Management |  |  |   |   |  |  |  |
|----------------------------|--|--|---|---|--|--|--|
| Activity                   | Metrics/Criteria   | Relative Continuum                       |   |   |  |  | Estimate Level   |
|                            |  | 1  | 2   | 3   | 4  | 5  |  |
| Community-based (N/A)      | Coverage of CHWs trained in and providing CM (geographic or numerical target)        | No CHWs conducting CM                    | 0-25% of national target met                                    | 25-50% of national target met   | 50-75% of national target met  | 75-100% of national target met                                   | 1 - Based on MOH policy, no CHWs project in place due to high coverage of HFs- 5km radius. In order to strengthen malaria surveillance at community level, council malaria surveillance officers are responsible for conducting community case management. |
| Community-based (N/A)      | Regular supervision of CHWs in CM (regular defined as per national QA/QC guidelines) | No CHWs regularly supervised in CM       | 0-25% of CHWs regularly supervised in CM                        | 25-50% of CHWs regularly supervised in CM   | 50-75% of CHWs regularly supervised in CM  | 75-100% of CHWs regularly supervised in CM                       | 1  |
| Community-based (N/A)      | CHW reporting capabilities   | CHW-managed cases not reported into HMIS | Some CHW-managed cases routinely reported into HMIS             | Cases routinely reported into HMIS but cannot be disaggregated from HF-reported cases | Cases routinely reported into HMIS and can be disaggregated from HF-reported cases | All CHW case data routinely captured and reported electronically | 1  |
| Community-based (N/A)      | Institutionalization of funding (salaries and/or other support)                      | No resources                             | Only supported by external partners, no host government funding | Some host country government funding  | >50% funded by host country government   | Fully funded by host country government                          | 3 - CMSOs depend on external funding and host country contribution   |

|                       |  |                                      |   |   |  |  |  |
|-----------------------|--|--------------------------------------|---|---|--|--|--|
| <b>Facility-based</b> | Access to HF-based care (within 5 km of a health facility or as per national definition) | 0-20% of population has access to HF | 20-40% of population has access to HF                   | 40-60% of population has access to HF   | 60-80% of population has access to HF  | >80% of population has access to HF  | 5  |
| <b>Facility-based</b> | Regular* supervision of public HFs in CM   | No HFs regularly supervised in CM    | 0-25% of HFs regularly supervised in CM                 | 25-50% of HFs regularly supervised in CM  | 50-75% of HFs regularly supervised in CM   | 75-100% of HFs regularly supervised in CM  | <i>5 - All public and private HFs using mRDT and microscopy are supervised to assess malaria diagnostic services. About 80% of HFs are supervised on Malaria case management treatment need for expansion in order to cover all HFs.</i> |
| <b>Facility-based</b> | Drug resistance monitoring   | No TES performed in last 3 years     | TES performed in last 3 years but results not available | Recent TES results available (within last 3 years) but no training in molecular testing | Recent TES results available (within last 3 years) and in-country staff trained in molecular testing | Recent TES results available (within last 3 years) and in-country capability for molecular testing | <i>3- Molecular testing is conducted abroad. Also, TES not regularly conducted in Zanzibar; results from Mainland are extrapolated.</i>  |

### Zanzibar - Drug-Based Prevention

| Activity | Metrics/Criteria  | Relative Continuum           |   |   |   |   | Estimate Level  |
|----------|---|------------------------------|---|---|---|---|---|
|          |   | 1                            | 2   | 3   | 4   | 5   |   |
| MIP      | National policy exists for malaria prevention in pregnancy                                | No policy                    | Policy exists but is not comprehensive (does not cover all aspects of MIP: ITN, IPTp and case management) | Comprehensive policy exists for prevention (ITNs, IPTp) and case management but not all WHO recommendations are included                          | Policy meets current WHO recommended MIP prevention   | Comprehensive, WHO-aligned policy is actively implemented   | 4 - Zanzibar meets recommendations based on country-level consultation with WHO.  |
| MIP      | Country policy adoption/adaptation of ANC guidelines with at least 4 recommended contacts | No policy                    | Country has started discussions and consultations for adopting the new ANC guidelines and recommendations | Country has policy specifying ANC contacts but no provision for early delivery of IPTp and is not able to systematically track ANC visits in HMIS | Country policy specifies ANC contacts and has provision for delivery of IPTp at 13-16 weeks but cannot track all ANC visits in HMIS   | Country policy specifies the number of contacts be delivered during pregnancy and has a provision for delivery of IPTp at 13-16 weeks and is able to track ANC visits in HMIS.                  | 4 - Country policy specifies ANC contacts, but IPTp has not been implemented since 2004 due to very low level of malaria in pregnancy.                |
| MIP      | National MIP working group established and coordinating effectively                       | No working group established | Working group formed and meets on an ad hoc basis, TORs are established                                   | Working group engages in regular coordination but does not have mechanisms to ensure programmatic integration across technical areas              | Working group coordinates at the national level only with Malaria and Maternal Health and has limited mechanisms for ensuring programmatic integration across technical areas | Working group engages in regular coordination at national and sub-national level with Malaria and Maternal Health and has mechanisms to ensure programmatic integration across technical areas. | 1 - No specific MIP working group exists; however there are technical working group for case management to oversee management of malaria in pregnancy |

|            |   |                                       |   |   |   |  |  |
|------------|---|---------------------------------------|---|---|---|--|--|
| <b>MIP</b> | Supportive MIP supervision conducted                      | No HFs regularly supervised in MIP    | 0-25% of HFs regularly supervised in MIP                  | 25-50% of HFs regularly supervised in MIP                     | 50-75% of HFs regularly supervised in MIP                   | 75-100% of HFs regularly supervised in MIP   | 1  |
| <b>MIP</b> | Routine SP resistance monitoring via biomarkers conducted | No SP resistance monitoring conducted | SP resistance monitoring conducted in the last 6-10 years | SP resistance monitoring conducted in the last year 4-5 years | SP resistance monitoring conducted in the last year 3 years | SP resistance monitoring conducted in the last 3 years and results published or being published. | 1 - As stated above, IPTp-SP is not included in the treatment guidelines |

### Zanzibar - Supply Chain

| Activity            | Metrics/Criteria  | Relative Continuum   |   |  |  |   | Estimate Level |
|---------------------|---|--|---|--|--|---|----------------|
|                     |   | 1  | 2   | 3  | 4  | 5   |                |
| <b>Supply Chain</b> | Forecasting and Procurement Planning *Three years quantification is prepared within the annual forecast is extracted for programmatic use | Ad hoc forecasting based on poor, inadequate, or inaccessible data. Insufficient skills for selecting and implementing appropriate forecasting methodologies. Procurement plans are not developed from forecasts. No coordination among procurers. | Annual forecasting and supply planning done but is based on poor, inadequate, or inaccessible data. Locally based skills in quantification are developing. Review of procurement plans is irregular. Coordination among procurers is limited. | Annual forecasts incorporate service and/or/consumption data. Supply plans updated semi-annually and incorporate review/revisions of available funding. Coordinated procurement planning done at the national level (and regional level, if the health system is decentralized) and among procurers. | Semi-annual forecasts incorporate service and/or/consumption data, account for seasonality. Supply plans updated quarterly and incorporate review/revisions of available funding. Coordinated procurement planning done at the national level (and regional level, if the health system is decentralized). Identified commodity gaps effectively communicated to stakeholders for purposes of resource mobilization. | Near real-time demand/consumption, enhanced with additional programmatic contributions, drives monthly forecasting. Forecasting and supply planning-specific software used and outputs visible across networks. Supply plans updated monthly and incorporate review/revisions of available funding. Coordinated procurement planning done at the national level (and regional level, if the health system is decentralized). Identified commodity gaps effectively communicated to stakeholders for purposes of resource mobilization. Outputs shared through global platforms. | 3              |

|                            |                             |   |  |  |   |  |          |
|----------------------------|-----------------------------|---|--|--|---|--|----------|
| <p><b>Supply Chain</b></p> | <p>Warehousing/ Storage</p> | <p>Quality of infrastructure and operations at all stock holding levels (Central, Sub-central/facility) compromises ability to ensure commodities are adequately protected from damage, deterioration and loss. Unable to locate stock by batch in central/mid-level stores/warehouses.</p> | <p>Quality of infrastructure and operations in at least one stock holding level (Central, Sub-central/facility) ensures that commodities are adequately protected from damage, deterioration and loss. Paper-based inventory management system. No SOPs.</p> | <p>Quality of infrastructure and operations in at least two stock holding levels (Central, Sub-central/SDP) ensures that commodities are adequately protected from damage, deterioration and loss. Warehousing SOPs exist. Able to track inventory level with central level WMS but information is not routinely shared across warehouses. Some maintenance occurring. Limited ability to scale storage capacity</p> | <p>Quality of infrastructure and operations at all stock holding levels (Central, Sub-central/SDP) ensures that commodities are adequately protected from damage, deterioration and loss. Stock data is digitized in at least two stock holding levels. Some routine maintenance occurring. Storage capacity scaled through contracting of third party logistics providers (3PLs)</p> | <p>Quality of infrastructure and operations at all stock holding levels (Central, Sub-central/SDP) ensures that commodities are adequately protected from damage, deterioration and loss. Storage infrastructure and operations adhere to Good Warehousing Practices and/or meet in-country compliance standards. Stock data is digitized at all stock holding levels and near real-time stock visibility available across networks. Routine and predictive maintenance budgeted for and institutionalized. Storage capacity is logically located and can be effectively scaled with 3PLs.</p> | <p>3</p> |
|----------------------------|-----------------------------|---|--|--|---|--|----------|

|                            |   |  |   |  |  |  |          |
|----------------------------|---|--|---|--|--|--|----------|
| <p><b>Supply Chain</b></p> | <p>Routine distribution/resupply between stock holding levels</p> | <p>No routine requisition and resupply schedule between stock holding levels. No resources routinely available and allocated for transportation from higher to lower stock holding levels.</p> | <p>Routine requisition and resupply between at least two stock holding levels according to a schedule. Resources for transportation from higher to lower stock holding levels provided on ad hoc basis.</p> | <p>Routine resupply between all stock holding levels according to a schedule. Allocated resources for transportation from higher to lower stock holding levels provided on an irregular basis and resupply often achieved through unplanned means. Resupply performance monitored post-activity.</p> | <p>Routine resupply between all stock holding levels according to a schedule shared with all levels and informed by accurate demand signals. Allocated resources for transportation provided on a regular basis and augmented with 3PLs. Resupply performance monitored real-time.</p> | <p>Routine resupply between all stock holding levels according to a schedule shared with all levels and informed by accurate, timely, demand signals. Robust emergency and inter-facility resupply mechanisms are in place. Allocated resources for transportation available internally or outsourced with 3PLs. Resupply transaction data is digitized for all stock transfers. Near real-time visibility into upstream and downstream activities. Resupply operations adhere to GDP and or meet in-country compliance standards for maintaining quality during distribution.</p> | <p>3</p> |
|----------------------------|---|--|---|--|--|--|----------|

|                            |  |   |  |  |   |  |          |
|----------------------------|--|---|--|--|---|--|----------|
| <p><b>Supply Chain</b></p> | <p>Logistics Management Information System</p> | <p>System to aggregate, analyze, validate and display data (from all levels of the logistics system) that can be used to make logistics decisions and manage the supply chain not institutionalized or followed. No facility level records or not maintained. Low reporting rates. No visibility into CHW supplies. No visibility by central level on facilities and none by facility level on central level.</p> | <p>Stand-alone, program specific LMIS processes and structures defined but no formal or ongoing monitoring or measurement protocol exists. Some visibility of facility level inventory and consumption, low reporting rates, mostly paper-based.</p> | <p>The country has documented LMIS processes and structures. The structures are functional. Metrics for performance monitoring, quality improvement, and evaluation are systematically used. Migration of data collection and reporting from a paper system to an electronic system at the district level and above. A documented mechanism is in place for maintaining data quality throughout the data supply chain.</p> | <p>Government and stakeholders use the national LMIS systems for key performance monitoring and follow standard practices. Facility inventory and consumption data is digital at facility level, upstream data available to facilities. System alerts for low stock/expiry, use of master product list and master facility list. Interoperability with other information systems (e.g., warehouse management, medical records, laboratory management, enterprise resource planning systems, and health information management systems).</p> | <p>Near real time visibility into inventory and consumption data at all levels, data from multiple systems feed into common platform/control tower (automated process), predictive analytics. The government and stakeholders routinely review interoperability activities and modify them to adapt to changing conditions. Compliance with standards for data exchange, messaging, and security is regularly reviewed. The regulatory framework is reviewed and updated to reflect best practices for data exchange, messaging, and systems security.</p> | <p>3</p> |
|----------------------------|--|---|--|--|---|--|----------|

|                            |  |   |   |  |  |  |          |
|----------------------------|--|---|---|--|--|--|----------|
| <p><b>Supply Chain</b></p> | <p>Regulatory, Policy and Governance</p> | <p>Legal basis to enable a medicines (and related health commodities - e.g., devices, vaccines, etc.) regulatory agency to function is absent or inappropriate. Formal organizational structure regarding in-country stakeholders and relevant agencies to whom authority is delegated, is absent or inadequate (e.g., up-to-date organogram of MOH). Human and financial capacity to enable regulatory functionality, weak or absent. No approved supply chain strategic plan.</p> | <p>Medicines framework exists and is sufficient to support basic regulatory functions including clinical review (licensing) and marketing authorization with registration. Documented domestic financial support to enable regulatory activities - including human resources. Approved supply chain strategic plan but not updated recently. Poorly implemented strategic plan.</p> | <p>All SDP levels have in place policies that address STG, quality assurance and HR. Management policies for the supply chain system are in place at the MOH level. Policy and strategic leadership is not always translated into robust implementation plans, and supportive supervision, capacity building and guidance to managers within the system. No consistent approach to pharmacovigilance or a standard reporting structure for pharmacovigilance events. Overall quality management system in place to support interface of product licensing, registration, manufacturing, post-marketing surveillance. Approved (and up to date) supply chain strategic plan. Partially implemented.</p> | <p>Strong policy and strategic leadership by government, with firm grasp of budgets and financial sustainability Robust implementation plans, and supportive supervision, capacity building and guidance to managers within the system. Regulatory and policy bodies in alignment to support quality product availability. National and standardized Pharmacovigilance or a standard reporting structure for pharmacovigilance events in place, not fully functional. Approved (and up to date) supply chain strategic plan (contains clear roles and responsibilities, stakeholder mapping, costs).</p> | <p>The MOH leads strategic functions such as, policy formulation, quality assurance and overseeing the funds required for policy implementation. Ability to ensure product quality, automated drug registration process, clear/transparent importation process, robust post-market surveillance system and, track and trace regulations developed and/or in the process of implementation. Approved (and up to date) supply chain strategic plan (contains clear roles and responsibilities, stakeholder mapping, costs). Includes risk mitigation plan.</p> | <p>2</p> |
|----------------------------|--|---|---|--|--|--|----------|

### Zanzibar - Strategic Information

| Activity   | Metrics/Criteria  | Relative Continuum  |  |   |  |   | Estimate Level  |
|--|---|---|--|---|--|---|---|
|  |   | 1   | 2  | 3   | 4  | 5   |   |
| <b>Data, Surveillance, Monitoring &amp; Evaluation</b> | Overall HMIS reporting rate (CY 2018)   | <60%  | 60-69%   | 70-79%  | 80-89%   | 90%+  | 4 - Response based on MEEDS/MCN data reported from health facilities. The MEEDS data are used to respond with PRO ACD and MCN for RACD. |
| <b>Data, Surveillance, Monitoring &amp; Evaluation</b> | Element specific reporting rate: "Confirmed malaria cases among children under 5" (CY 2018) | <60%  | 60-69%   | 70-79%  | 80-89%   | 90%+  | 5   |
| <b>Data, Surveillance, Monitoring &amp; Evaluation</b> | HMIS data quality assurance and quality control   | Few standards exist for data collection, assembly, & analysis. Data quality reviews and audits are ad hoc for specific data needs. No data-quality assurance plan and national coordinating body exist. | Standards used for data collection, assembly & analysis in limited settings. Some electronic tools used for data quality review and audit. Data-quality assurance plan is available. | Standards defined and implemented for data collection, assembly, analysis, and used nationally. Data quality reviews and audits scheduled and include a remediation process to address identified issues. SM&E staff are seconded to NMCP | Data reviews and audits are integrated in strategic plans, conducted on a regular schedule. Regular meetings held by national data-quality governing body; issues identified are addressed through an established remediation process. | Continuous review and auditing through automated and manual processes, to ensure defined levels of data quality. Data quality metrics are used for continuous improvement. The data-quality assurance plan is reviewed periodically by a national coordinating body and appropriate stakeholders. | 3   |

|  |                   |  |  |   |   |  |   |
|--|-------------------|--|--|---|---|--|---|
| <b>Data, Surveillance, Monitoring &amp; Evaluation</b> | Reporting Systems | Data collection tools are not standard and procedures are not consistently followed; data are collected and stored in an unstructured format. NMCP does not have access to malaria data from HMIS.       | Data systems support longitudinal health data (clinical, surveillance, M&E) in limited settings. The data are available for centrally mandated reporting. A parallel malaria reporting system may exist.                           | Most data platforms/applications ensure data availability at all levels for decision support and M&E for authorized users. No parallel malaria reporting system exists. NMCP has access to malaria data from HMIS.          | The data systems in use ensure reliable and appropriate access to data at all levels for authorized users. Changes in reporting requirements are accommodated with minimal disruption to data availability. Data systems support secondary use of data and NMCP has access. | Data availability is monitored for continuous improvements and to meet emerging health sector needs. Reporting is available from private facilities and community-level providers and can be disaggregated.                                      | 4 |
| <b>Data, Surveillance, Monitoring &amp; Evaluation</b> | Data collection   | Data collection is not done at the most peripheral level (CHWs) and is irregular and inaccurate at rural and more central health facilities. System is entirely paper based, but registers may be absent | Data collection is well managed at HF level, but incomplete at community level (CHWs); most collection is paper based and aggregation is paper based; registers generally available; timeliness and completeness remain challenges | Data collection is well managed at HF level and at community level (CHWs); most collection is paper based, aggregation is electronic; registers available; timeliness and completeness >80%, feedback to collectors limited | Data collection at all levels); collection is electronic and sometimes paper based, aggregation is electronic; registers include all program-critical data; timeliness and completeness >80%, feedback to collectors is standardized  | Data collection occurs at all levels, is transmitted in real time with timely feedback to those collecting and those using the data; data checks exist at point of collection; electronic transmission is the norm, including to data collectors | 3 |
| <b>Data, Surveillance, Monitoring &amp; Evaluation</b> | Data use          | Activities (analysis, interpretation, visualization) to ensure data use are rarely implemented   | Limited data use activities are implemented (bulletin has been developed but analysis and interpretation for decision-making needs to be strengthened)   | Country conducts regular data use activities (review meetings, bulletin at least quarterly, at least at the central level).   | Country conducts regular data use activities at all levels (review meetings, bulletins, dashboard at least quarterly).  | Country has developed their own high- quality dashboard to facilitate data use, and data-informed decision making is evident at all levels, on a frequent basis.   | 2 |

|              |   |   |   |   |  |  |   |
|--------------|---|---|---|---|--|--|---|
| <b>OR/PE</b> | PMI in-country OR experience                                | No previous PMI OR experience in country                                  | PMI team has prepared concept notes (CNs) but has not completed protocols or conducted OR | PMI team has completed protocols and received approval for OR; studies in planning, underway, or recently completed           | PMI team and/or other country partners have completed a OR study and prepared and shared reports                           | Multiple OR studies completed in country that address malaria program implementation bottlenecks with publication and sharing of results, with involvement from MOH co-investigators | 5 |
| <b>OR/PE</b> | Country mechanisms for OR/PE review                         | No in-country process for research review, determination or IRB processes | Limited in-country processes for research review, determination and IRB oversight         | Processes in place for research and IRB review with federal-wide assurance approval; no previous PMI in-country OR experience | Processes in place for research and IRB review with federal-wide assurance approval; previous PMI in-country OR experience | Full complement of research review, approval, oversight processes including data safety and monitoring boards and systems for results sharing  | 5 |
| <b>OR/PE</b> | In-country partnerships for OR                              | No in-country partners (academic, NGO, or other) with OR experience       | 1-2 in-country partners with OR experience, but no malaria specific experience            | 3+ in-country partners with OR experience; 1+ with some malaria expertise; no current PMI-linked OR work                      | 3+ in-country partners with OR experience; 1+ with malaria expertise; current or recent work with PMI OR                   | Multiple in-country partners with specific malaria experience in PMI OR, including completed past work and reporting on malaria OR   | 5 |
| <b>OR/PE</b> | Conceptualization of problems needing scientific evaluation | No experience   | Some but limited experience in identifying programmatic problems and prioritization       | Experience with identifying program problems and prioritizing PE and OR   | Experience with identifying problems needing PE or OR and developing study approaches with partners                        | Extensive experience with problem identification, prioritization, proposal development and conducting PE or OR   | 3 |

### Zanzibar - Support Systems

| Activity | Metrics/Criteria   | Relative Continuum  |  |   |  |  | Estimate Level |
|----------|--|---|--|---|--|--|----------------|
|          |  | 1   | 2  | 3   | 4  | 5  |                |
| SBC      | National Malaria SBCC Strategy used to guide design and implementation of malaria SBC activities | No strategy exists.   | Strategy exists but there is no evidence that it has been used to guide design or implementation.  | Strategy exists and is used from time-to-time to guide design and implementation, but is of poor quality and does not include any of the key elements identified in the RBM SBCC Working Group National Malaria SBCC Strategy Template. | Strategy is used from time-to-time to guide design and implementation, but lacks alignment with the broader National Malaria Strategy and only incorporates a couple of the key elements identified in the RBM SBCC Working Group National Malaria SBCC Strategy Template. | Strategy is well aligned with the broader National Malaria Strategy, includes the key elements identified in the RBM SBCC Working Group National Malaria SBCC Strategy Template, and is used to guide design and implementation. | 5              |
| SBC      | SBC Technical Working Group coordinates effectively  | No technical working group exists.                                      | The SBC Technical Working Group exists on paper, but has not been operationalized.   | The SBC Technical Working Group has significant resource and staffing gaps and does not have clear pathways for coordination.   | The SBC Technical Working Group lacks some needed resources/staff and generally only coordinates at the national level only.   | The SBC Technical Working Group is well resourced and staffed and engages in regular coordination at both the national and sub-national level.   | 4              |
| SBC      | High-quality formative assessments used to inform intervention design                            | No high-quality, formative assessment conducted in the last five years. | Formative assessment conducted, but significant quality issues in the design and no evidence that data was used to inform intervention design. | High-quality, formative assessment conducted, but no evidence that data was used to inform intervention design.   | Data from prior projects used exclusively to guide intervention design; no new data collected.   | High-quality, formative assessment conducted and data used to inform intervention design.  | 4              |

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| <b>Elimination</b>                             | Elimination planning to implementation           | No elimination or pre-elimination targets in the national strategic plan | Risk stratification conducted using latest incidence data and interventions targeted                              | Readiness assessment/ capacity inventory conducted  | Capacity built and systems in place to initiate elimination activities   | Elimination activities implemented fully in targeted areas  | 5 - <i>Operational challenges observed especially in private sector</i>          |
| <b>Elimination</b>                             | Surveillance system readiness to track all cases | Monthly, aggregate data from public sector only                          | At least monthly, aggregate data from public, private, and community levels                                       | Case-based reporting initiated  | Real-time, case-based surveillance inclusive of all sectors and levels in targeted areas   | Real-time, case-based reporting and response activities implemented   | 5 - <i>Some operational challenges are observed especially in case follow up</i> |
| <b>Additional Health Systems Strengthening</b> | Staffing   | No staff   | Manager and a few technical staff; not all intervention areas are covered   | Manager and technical staff for each intervention area; many staff have limited training and experience ; limited program support staff   | Full staffing of program areas and support systems but some staff need further training to optimize their effectiveness; limited plans and opportunities for such training | Fully staffed with personnel with relevant training and experience; complete plan for professional development  | 4  |
| <b>Additional Health Systems Strengthening</b> | Office space, transport                          | No office space or transport   | Office space exists but is insufficient for staff; Transport available at intervals but limited for program needs | Office space adequate for current staff but no growth possible; office not well positioned for access to MOH leadership. Transport available but not covering all needs and not well managed/maintained | Office space adequate for current staff and some technical areas (e.g., lab) but not fully adequate for growth and all technical services. Transport covers most needs.    | Office space is fully adequate for current staff and technical needs (lab, insectary, meeting space, etc.) and some growth and well positioned in the MOH; Transport is fully available for needed purposes -- trucks and 4-wheel drive vehicles where needed - all maintained and managed. | 4 - <i>Pemba office does not have adequate space</i>                             |

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| <b>Additional Health Systems Strengthening</b> | Internet connectivity                    | No Internet connectivity                               | Intermittent connectivity; poor bandwidth; challenging maintenance; very little budget                         | Mostly connected with some outages; ok but not ideal bandwidth; irregular maintenance; modest budget                                | Generally stable connections, adequate bandwidth for most work, fair to good maintenance and sufficient budget   | Fully connected, maintained, good bandwidth for all needs, and sufficient budget including all needed hardware and software  | 4 |
| <b>Additional Health Systems Strengthening</b> | NMCP placement within Ministry of Health | NMCP exists but is barely visible in the MOH structure | NMCP is visible in the MOH structure but NMCP manager reports to supervisor who is still low in the MOH system | NMCP is visible and manager reports to high level leader in MOH (e.g., Director of Public Health or Permanent Secretary for Health) | NMCP (or NMEP) is highly visible and reports at a high level in MOH and has some access to other ministry leadership (e.g., education, agriculture, community development) | NMCP (or NMEP) is highly visible within MOH and with all other relevant ministries and has ready access to country leadership (e.g., the president/prime minister; and parliament) | 5 |