

Tanzania

Malaria Indicator Survey 2017



Malaria Policy Briefs



United Republic of Tanzania

The 2017 Tanzania Malaria Indicator Survey (2017 TMIS) was implemented by the National Bureau of Statistics (NBS) and Office of the Chief Government Statistician (OCGS), Zanzibar, in collaboration with the Ministry of Health, Community Development, Gender, Elderly and Children, Tanzania Mainland, and the Ministry of Health, Zanzibar. ICF provided technical assistance. The 2017 TMIS is part of the worldwide DHS Program, which assists countries in the collection of data to monitor and evaluate population, health, and nutrition programs. The survey was funded by the U.S President's Malaria Initiative (PMI) and The Global Fund.

Additional information about the 2017 TMIS may be obtained from the National Bureau of Statistics, Head Office, Jakaya Kikwete Road, P.O. Box 2683, Dodoma, Tanzania. Telephone: 255-26-2963822/4; fax: 255-26- 2963826; e-mail: sg@nbs.go.tz; internet: www.nbs.go.tz

Information about The DHS Program can be obtained from ICF, 530 Gaither Road, Suite 500, Rockville, MD 20850, USA. Telephone: 301-407-6500; fax: 301-407-6501; e-mail: info@DHSprogram.com; internet: <http://www.DHSprogram.com>

Cover photos: School children receive free bed nets during a distribution at Buhigwe School, Tanzania.
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Icon: © Mosquito by Monika Ciapala, courtesy of The Noun Project



Introduction

These four policy briefs rely largely on the findings of three nationally-representative surveys carried out in Tanzania over the last five years and collected data on malaria. The development of the Tanzania Malaria Policy Briefs was a result of efforts of many institutions and ministries including the National Bureau of Statistics (NBS); Office of Chief Government Statistician (OCGS); National Malaria Control Program (NMCP); Zanzibar Malaria Elimination Program (ZAMEP); Ifakara Health Institute (IHI); National Institute for Medical Research (NIMR); Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) - Tanzania Mainland; Ministry of Health(MoH) – Zanzibar and The DHS Program.

2017 Tanzania Malaria Indicator Survey (TMIS)

Sample: 9,330 households nationwide, 10,018 women age 15-49

Implementing Agencies: National Bureau of Statistics (NBS), Tanzania Mainland and Office of Chief Government Statistician (OCGS), Zanzibar in collaboration with the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC), Tanzania Mainland and Ministry of Health(MoH), Zanzibar

Funding: U.S President’s Malaria Initiative (PMI) and The Global Fund

2015-16 Tanzania Demographic and Health Survey and Malaria Indicator Survey (TDHS-MIS)

Sample: 12,563 households nationwide, 13,266 women and 3,514 men age 15-49

Implementing Agencies: National Bureau of Statistics (NBS), Tanzania Mainland and Office of the Chief Government Statistician (OCGS), Zanzibar in collaboration with the Ministry of Health, Community Development, Gender, Elderly and Children, Tanzania Mainland and the Ministry of Health, Zanzibar

Funding: Government of Tanzania, United States Agency for International Development (USAID), Global Affairs Canada, Irish Aid, United Nations Children’s Fund (UNICEF), and United Nations Population Fund (UNFPA)

2014-15 Tanzania Service Provision Assessment (TSPA)

Sample: 1,188 health facilities nationwide; 6,866 health provider interviews; 4,961 observations of outpatient curative care for sick children consultations, 1,746 observations of family planning consultations, 4,007 observations of antenatal care consultations

Implementing Agencies: National Bureau of Statistics (NBS), Tanzania Mainland and Office of Chief Government Statistician (OCGS), Zanzibar in collaboration with the Ministry of Health and Social Welfare, Tanzania Mainland and Ministry of Health, Zanzibar

Funding: United States Agency for International Development (USAID)



Insecticide-treated Net Access and Use: Challenges and Strategies for Malaria Control in Tanzania

Executive Summary

Insecticide-treated net (ITN) use has contributed significantly to the reduction of malaria in Tanzania. However, the 2017 Tanzania Malaria Indicator Survey (TMIS) found that both access to and use of ITNs remains lower than national targets set to interrupt malaria transmission. More than one-third of Tanzanians have no access to an ITN and nearly half of the population did not sleep under an ITN the night before the survey. These findings challenge Tanzania's goal of eliminating malaria by 2030. It is suggested that the Government use innovative, cost effective and practical solutions to impact both access to and use of ITNs via improved social and behaviour change communications through text messaging and use of community-based systems to identify and deliver free nets to target very poor households.

Introduction

Tanzania has experienced huge successes in the fight against malaria. However, more programmatic efforts are needed to sustain these gains and accelerate towards malaria elimination. This brief presents the current situation of malaria in Tanzania and assesses existing programmatic gaps in relation to access and use of insecticide treated nets (ITNs). It also proposes cost effective, affordable and practical policy solutions to further impact on malaria control.

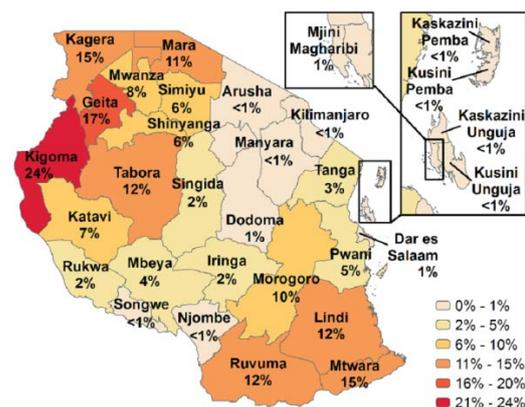
Over the past 15 years, the number of malaria-related deaths¹ and new cases of clinical malaria infections² have been reduced by more than half. Of the existing interventions, the use of ITNs has contributed the greatest share to these successes³.

Despite such impressive gains, malaria cases and related deaths are still reported across the country. The 2017 Tanzania Malaria Indicator Survey (TMIS) showed that 7% of children are infected with malaria, with a wide range of regional variation in transmission. For example, Lake and Southern zones have considerably high malaria prevalence compared to Northern and Central zone (Figure 1).

Currently, Tanzania's target is for 80% of the population to have access to an ITN. Several ITN distribution channels [Mass Replacement Campaign (MRC), School Net Program (SNP) and Reproductive Child Health Services (RCHs)] are in place to achieve this objective, accompanied by

Figure 1: Prevalence of malaria in children by region (2017 TMIS)

Percentage of children age 6-59 months who tested positive for malaria by RDT



¹ World Health Organization. World Malaria Report.; 2017.

<https://reliefweb.int/sites/reliefweb.int/files/resources/WMR-2017-slide-deck-briefings.pdf>.

² Okiro EA, Noor AM, Malinga J, et al. An epidemiological profile of malaria and its control in Mainland Tanzania. Roll Back Malar Dep Int Dev. 2013;(July):1-145.

³ Bhatt S, Weiss DJ, Cameron E, et al. The effect of malaria control on Plasmodium falciparum in Africa between 2000 and 2015. Nature. 2015. doi:10.1038/nature15535

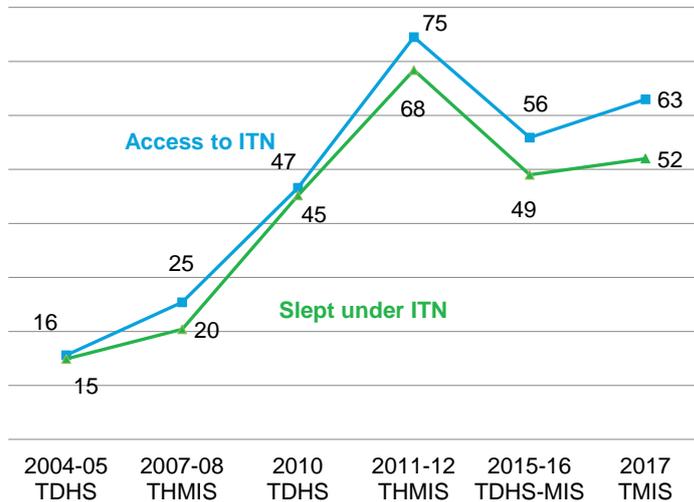


Insecticide-treated Net Access and Use: Challenges and Strategies for Malaria Control in Tanzania

sensitization campaigns. The 2017 TMIS evaluated the outcomes of these efforts, including access to and use of ITNs.

Figure 2: Trends in ITN access and use

Percentage of the household population with access to an ITN and percentage of the population that slept under an ITN the night before the survey



Note: The definition of an ITN in surveys conducted prior to 2017 included nets that had been soaked with insecticides within the past 12 months.

Regional variations exist in both access to and use of ITNs. Access to ITNs ranges from 42% in Singida Region to 77% in Pwani and Kusini Pemba regions (Figure 3). Use of ITNs is highest in Pwani Region (78%) but is lowest in Njombe Region (16%). Similarly, there is variation in ITN access by wealth; poor households were less likely to have access to ITN (50%) than richer households (71%).

Access to an ITN is not the only determinant of net use. The 2017 TMIS also assessed community knowledge about the importance of using nets to prevent malaria. Almost all women (98%) cited sleeping under a net as a way of preventing malaria, indicating that knowledge is not a barrier to use.

Survey Findings

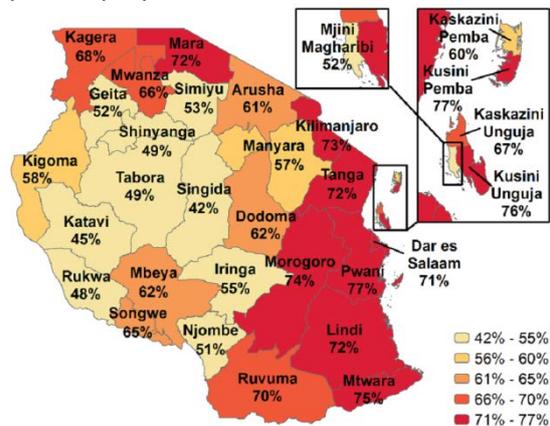
Access to an ITN measures the proportion of the population that could sleep under an ITN if each ITN in the household is used by two people. The 2017 TMIS indicates that 63% of Tanzania's population has access to an ITN.

Use of ITNs refers to the proportion of the population that slept under an ITN the night before the survey. Only 52% of the household population slept under an ITN.

Over the past 13 years, there is a clear positive association between access and use of ITNs, with a widening gap observed in the 2017 TMIS (Figure 2).

Figure 3. ITN access by region (2017 TMIS)

Percentage of the household population that could sleep under an ITN if each ITN in the household were used by up to two people





Insecticide-treated Net Access and Use: Challenges and Strategies for Malaria Control in Tanzania

From Data to Action: Conclusions and Implications for Policies and Programs

The continued existence of malaria transmission coupled with low access to and limited use of ITNs present a serious problem which should be tackled to enable Tanzania to achieve its goal of eliminating malaria by 2030. The following practical and cost-effective policy solutions in addressing both access to and use of ITNs are therefore recommended:

Access to ITNs

- In regions with high malaria transmission, the Government of Tanzania should consider complementing the School Net Program (SNP) with a community-based free ITN delivery system that identifies and delivers nets to households with no school children or families with children not attending school. This system would likely include a high proportion of poor households which can be identified through existing Tanzania Social Action Fund (TASAF) model.

Use of ITNs

- The Government of Tanzania should consider developing an improved Social Behavioural Change Communication (SBCC) strategy, aimed at increasing ITN use, targeting regions with low usage. This approach can be done by sensitising communities through mobile phone-free text messages, like the current approach used by Police-Tanzania against cyber-crime. This approach is potentially highly cost-effective considering that it can be done by mobile phone companies as part of their private sector Social Corporate Responsibility. Moreover, ownership of mobile phones is widespread in Tanzania; the 2015-16 Tanzania Demographic and Health Survey and Malaria Indicator Survey shows that 3 in 4 Tanzanian households own a mobile phone.
- Involvement of influential people across all levels (from the Ministry to local communities) to promote the use of ITNs.

ITN ACCESS AND USE IN MALARIA CONTROL IN TANZANIA

Over the past 13 years, household surveys have shown that access to and use of ITNs have increased, but generally remain below the national target, thus limiting the possibility of country's efforts to eliminate malaria by 2030.

The SBCC through mobile phone text messages to promote ITN use is both practical and cost effective because it can reach a wider population in short a time.



Intermittent Preventive Treatment during Pregnancy (IPTp)

Executive Summary

Malaria infection during pregnancy is a public health problem in Tanzania, with substantial risk for the mother, unborn child, and the new-born baby. To address this, pregnant women should receive multiple doses of Sulfadoxine-Pyrimethamine (SP) as Intermittent Preventive Treatment during pregnancy (IPTp). While national targets state that 80% of pregnant women should receive at least three doses of SP, recent population-based surveys have indicated that only 1 in every 4 (26%) women received at least three doses.

Introduction

Malaria infection during pregnancy is a major public health problem in Tanzania. Pregnancy reduces women's immunity, making them more susceptible to diseases, including malaria infection. Maternal malaria increases the risk of spontaneous abortion, stillbirth, maternal anaemia, premature delivery, intrauterine growth retardation, severe disease and death¹.

In 2001, Tanzania adopted the WHO recommended guidelines on the use of Intermittent Preventive Treatment with Sulfadoxine-Pyrimethamine (IPTp-SP) during pregnancy to reduce complications associated with malaria infection. The use of SP for IPTp is recommended for all eligible pregnant women at each scheduled interval during antenatal care (ANC) visits, starting as early as possible in the second trimester. According to the Malaria Strategic Plan 2015-2020, at least 80% of pregnant women should receive at least three doses of IPTp (IPTp 3+)².

At the community level, determinants of IPTp uptake include knowledge of IPTp as a preventive method and ANC attendance. To achieve the 80% IPTp+ target, the MoHCDGEC in Tanzania Mainland through reproductive and child health services, adopted new WHO recommendations which states that pregnant women should have eight ANC contacts for safe pregnancy³. In addition, the availability of guidelines, SP, and personnel trained on IPTp policy and schedule in all health facilities is essential for appropriate delivery of this intervention⁴.



***IPTp given during antenatal care
(Courtesy of Tanzania NMCP Report)***

¹ The World Health Organization (WHO), Guidelines for the Treatment of Malaria, third edition. Geneva, Switzerland: WHO Press (2015). Available at <https://www.who.int/malaria/publications/atoz/9789241549127/en/>

² National Malaria Control Programme (Tanzania), Tanzania. National Malaria Strategic Plan 2015 –2020. Tanzania: Ministry of Health, Community Development, Gender, Elderly, and Children.

³ The World Health Organization (WHO), recommendations on antenatal care for a positive pregnancy experience Geneva, Switzerland: WHO Press (2016).

⁴ National Malaria Control Programme (Tanzania). National Guidelines for Diagnosis and Treatment of Malaria (NGDTM). Malaria Control Series 25. 2014.



Intermittent Preventive Treatment during Pregnancy (IPTp)

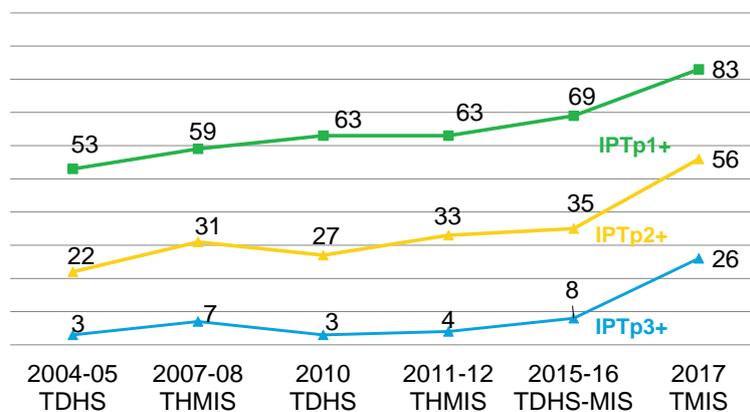
Recent national household and health facility surveys provide information on the current levels of IPTp uptake and allow for examination of the gaps at community and facility levels⁵.

Survey Findings

Although data from the national household surveys show an increasing trend in IPTp uptake for at least one, two and three doses, the 2017 Malaria Indicator Survey (TMIS) shows that IPTp 3+ remains very low (26%, see Figure 1). This means that most Tanzanian women are not receiving enough doses to protect themselves and their children.

Figure 1: Trends in Intermittent Preventive Treatment

Percentage of women with a live birth in the 2 years before the survey who received at least 1, 2, or 3 doses of SP/Fansidar



One determinant of IPTp use is ANC attendance. The 2015-16 Tanzania Demographic and Health Survey and Malaria Indicator Survey (TDHS-MIS) revealed that only half of women attended four or more ANC visits. Knowledge can also play a role in low attendance. Although the 2017 TMIS results indicate that nearly all women (98%) know that mosquito nets can be used to avoid malaria, only 2% of women mentioned IPTp.

⁵ National Malaria Control Programme (Tanzania). Annual Malaria Report, 2018

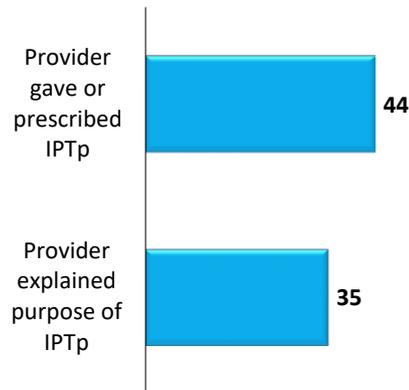


Intermittent Preventive Treatment during Pregnancy (IPTp)

Observations of ANC visits conducted during the 2014-25 Tanzania Service Provision Assessment (TSPA), revealed that service providers gave or prescribed IPTp for 44% of clients and explained its purposes to only 35%. (Figure 2). The survey also showed that only one-third of the facilities offering ANC services had IPTp guidelines and less than half of facilities had staff who were recently trained on IPTp. Moreover, 61% of health facilities had SP available for IPTp. However, since the 2014-15 TSPA, the most recent National Malaria Control Program (NMCP) data show that SP availability at facilities has improved⁵.

Figure 2: IPTp in Observed ANC Visits (2014-15 TSPA)

Among ANC clients whose consultations were observed (N=4,007), percent where indicated components were observed



From Data to Action: Conclusions and Implications for Policies and Programs

These survey data suggest that lack of guidelines in facilities, low completion of the recommended number of ANC visits, and limited knowledge about preventing malaria infection during pregnancy through IPTp might have contributed to the observed low coverage of IPTp3+.

Thus, the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) through the NMCP should

1. Design and implement focused Social and Behaviour Change Communication (SBCC) package using mass media, community members and influential people to increase ANC visits during pregnancy.
2. Ensure all facilities have existing training manuals, Standard Operating Procedures (SOP) and guidelines on ANC services, including IPTp.
3. Conduct regular supportive supervision and perform on-the-job training for ANC health care workers to emphasize the importance of preventing malaria and related complications during pregnancy.

KNOWLEDGE OF IPTp

- Only 2% of women mentioned that IPTp can be used to avoid malaria.
- A focused social and behaviour change communication is needed to improve pregnant women's attendance at ANC to meet the national target of 80% of pregnant women receiving 3 or more doses of IPTp.



Saving Lives by Increasing Prompt Care Seeking and Testing for Malaria Before Treatment with Effective Antimalarials

Executive Summary

Malaria can easily be treated if patients seek services promptly and receive both a test and treatment with recommended antimalarials. Although the 2017 Tanzania Malaria Indicator Survey showed that three quarters of children with fever sought advice or treatment, a smaller proportion (about 40%) sought treatment promptly (within 24 hours) and were tested for malaria. This policy brief recommends interventions to increase testing and treatment of febrile patients in areas with low access to medical care to increase the number of febrile children properly treated, save lives, and support malaria elimination.

Introduction

Malaria is a deadly infectious disease, especially for the most vulnerable groups (children under five and pregnant women), but prompt treatment with effective antimalarials can treat malaria cases and prevent infection to others. Providing early diagnosis with microscopy or rapid diagnostic tests (mRDTs) and prompt treatment with artemisinin-based combination therapy (ACTs) is an important strategy of malaria control.

Untreated children remain at a high risk of severe malaria, death, or permanent disability. Improper management of fevers leads to waste of expensive ACTs and misuse of these drugs can potentially result in emergence and spread of artemisinin resistance, as was the case with chloroquine in 1980s/90s. Ineffective management of fevers can perpetuate malaria transmission and make it harder for Tanzania to attain its goal of malaria elimination by 2030.

This policy brief analyses available evidence to identify gaps in case management and make recommendations which will enable Tanzania to attain its malaria elimination goal by reducing transmission and saving patients' lives.

The national target for case management is for 80% of children with fever to seek treatment promptly (within 24 hours of fever onset) as well as to be tested for malaria. In Tanzania, the Government has ensured that artemisinin-based combination therapy (ACTs) and mRDTs are available in most of the public health facilities to enable febrile patients who seek treatment to access and obtain malaria diagnosis and treatment (2014-15 Tanzania Service Provision Assessment Survey (TSPA)).

The 2017 Tanzania Malaria Indicator Survey (TMIS) assessed treatment-seeking behaviour and diagnostic testing among children with fever in the two weeks before the survey and showed gaps in prompt treatment seeking and diagnostic testing.

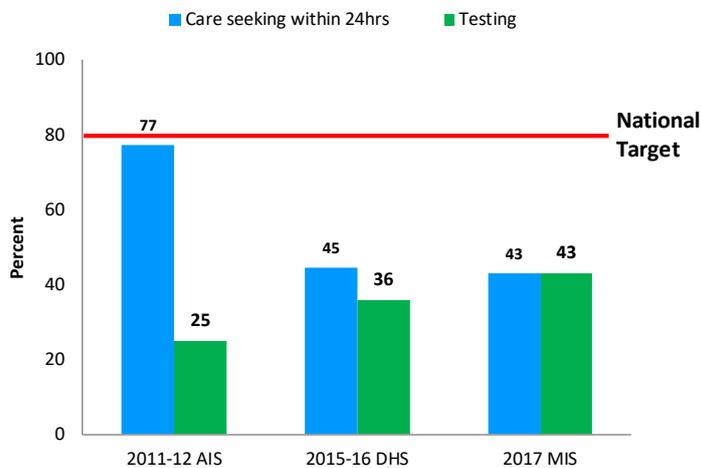


A health worker tests a child for malaria at a health facility in Buhigwe, Kigoma, Tanzania. © 2017 Magali Rochat/ VectorWorks, Courtesy of Photoshare



Saving Lives by Increasing Prompt Care Seeking and Testing for Malaria Before Treatment with Effective Antimalarials

Figure 1: Percentage of children with fever who sought advice or treatment within 24 hours and the percentage of children who were tested for malaria



Survey Findings

According to the 2017 TMIS, one in five children under five in Tanzania had fever in the two weeks before the survey. Although 75% of febrile children sought advice or treatment, a smaller proportion of febrile children (43%) sought treatment within 24 hours after the onset of fever. The same proportion of febrile children (43%) had blood taken for testing, indicating a gap between the national target of 80% and the reality in Tanzanian communities.

At the facility level, 81% of facilities providing malaria diagnosis and/or treatment had mRDTs available. However, the 2015-16 Tanzania Demographic and Health Survey and Malaria Indicator Survey (TDHS-MIS) found that 42% of women reported distance to health facility as a problem that limits access to health care. Though most health facilities are well equipped to diagnose and treat malaria, barriers like distance to the health facility limit parents' and other caretakers' ability to promptly seek care for febrile children. These findings suggest that increasing access to health care via community health workers might increase testing and case management for febrile patients.

From Data to Action: Conclusions and Implications for Policies and Programs

Recent survey findings showed gaps in prompt treatment seeking and diagnostic testing for malaria among febrile children. To reach the global and national target of 80% of children seeking care and receiving diagnostic testing for malaria, it is recommended that the Ministry of Health, Community Development, Gender, Elderly and Children (MoHCDGEC) implement the following interventions:

1. Deploy and utilize community health workers (CHWs) in testing and treating of febrile patients in areas with low access to medical care. Previous studies showed that CHWs working at posts located within villages can deliver good quality care for malaria leading to an increase in the number of patients attending and testing for malaria and appropriately treated with



Saving Lives by Increasing Prompt Care Seeking and Testing for Malaria Before Treatment with Effective Antimalarials

antimalarials¹²³⁴. Deployment of CHWs living within the villages will expectedly increase the availability of health care, including during the night and on weekends when most health facilities are closed. CHWs have also been fostering equity through preferential outreach to the poorest members of the community⁵.

2. Finalize ongoing plans under the National Malaria Control Programme to initiate testing of malaria in the private sector through accredited drug dispensing outlets (ADDOS).
3. Strengthen social behaviour change communication to increase the number of febrile children who seek medical care and testing to support appropriate management of fevers.

SAVING LIVES BY INCREASING CARE SEEKING AND TESTING FOR MALARIA

- Only 43% of children with fever seek treatment promptly (within 24 hours) and get tested for malaria, just over half of the national target of 80%
- Using community health workers (CHWs) to test and treat febrile patients in areas with low access to medical care can increase the number of febrile children properly treated, save lives and support malaria elimination.

¹Mukanga D, Tibenderana JK, Peterson S et al. (2012): Access, acceptability and utilization of community health workers using diagnostics for case management of fever in Ugandan children: a cross-sectional study. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC3359954/pdf/1475-2875-11-121.pdf>

²Thiam S, Thwing J, Diallo I et al. (2012): Scale-up of home-based management of malaria based on rapid diagnostic tests and artemisinin-based combination therapy in a resource-poor country: results in Senegal. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/23009244>

³Linn AM, Ndiaye Y, Hennessee I et al. (2015): Reduction in symptomatic malaria prevalence through proactive community treatment in rural Senegal. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/26171642>

⁴Pradhan S, Pradhan MM, Dutta A, et al. (2019): Improved access to early diagnosis and complete treatment of malaria in Odisha, India. Retrieved from <https://www.ncbi.nlm.nih.gov/pubmed/30601833>

⁵Simba DO, Kakoko D, Nyamhanga T, Mrango Z, Mujinja P (2018): Improving prompt access to malaria diagnostics and treatment in rural remote areas using financial benefit for community health workers in Kilosa district, Tanzania. Retrieved from <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6203113/>



Strategies to Improve Adherence to Malaria Treatment Guidelines in Zanzibar

Executive Summary

The 2014-15 Tanzania Service Provision Assessment (TSPA) established a baseline of malaria service readiness among health facilities in Zanzibar. The Zanzibar Malaria Elimination Programme subsequently made efforts to increase access to treatment guidelines, malaria rapid diagnostic tests (mRDTs) and artemisinin-based combination therapy (ACT) in all public facilities. However, as Zanzibar has moved to a malaria transition strategy, guidelines have changed rapidly. Non-adherence to treatment guidelines is still observed among privately owned health facilities which poses serious problems such as drug resistance and increased malaria infection. Availability of treatment guidelines and trained staff can enhance adherence and ensure provision of quality malaria case management services. Supplying mRDTs, ACTs, treatment guidelines, simplified job aids, and training of health care providers in both public and private health facilities are key strategies to achieve the goal of eliminating malaria.

Introduction

The primary goal of the Zanzibar Malaria Strategic Plan 2017/18-2022/23 is to eliminate malaria by 2023. To achieve this goal, one objective is to ensure quality diagnosis and appropriate case management in both public and private health facilities as well as at the community level to reach 100% by 2023.

In 2017, the Zanzibar Malaria Elimination Programme (ZAMEP) revised the malaria treatment guidelines to align with the World Health Organization treatment guideline recommendations¹ and Global Technical Strategy² for malaria elimination. In 2016, new guidelines to reduce malaria transmission were adopted which introduced the antimalarial drug primaquine, in addition to artemisinin-based combination therapy (ACTs). New treatment guidelines were subsequently distributed to all public health facilities (HF).

Since then, ZAMEP has observed non-adherence to treatment guidelines in some privately-owned health facilities. More than a quarter of private HFs gave patients malaria medicines which are not recommended by treatment guidelines. This policy brief suggests strategies to improve adherence to treatment guidelines across all sectors in order to achieve the malaria elimination goal in Zanzibar.



First line ACTs to treat uncomplicated malaria



In the transition from malaria control to malaria elimination, Primaquine was added to guidelines for treatment of uncomplicated malaria

¹ The World Health Organization (WHO), Guidelines for the Treatment of Malaria, third edition. Geneva, Switzerland: WHO Press (2015). Available at

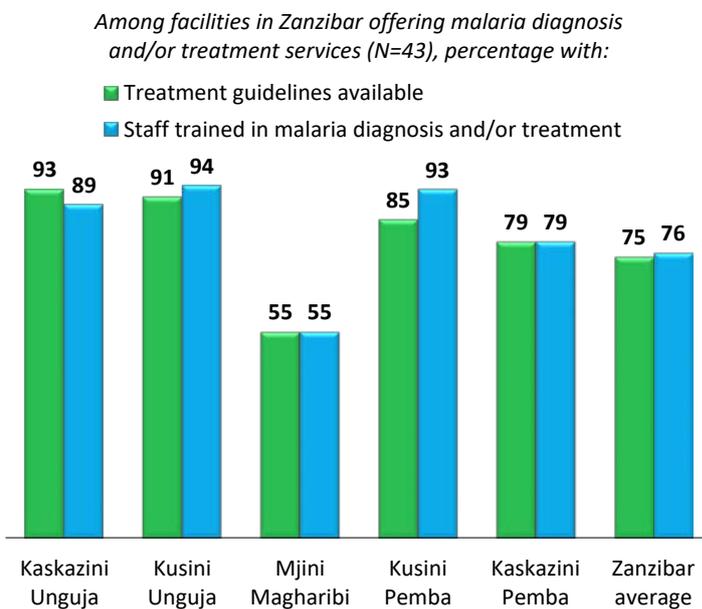
<https://www.who.int/malaria/publications/atoz/9789241549127/en/>

² WHO, Global Technical Strategy for Malaria 2016–2030. Available at https://www.who.int/malaria/areas/global_technical_strategy/en/



Strategies to Improve Adherence to Malaria Treatment Guidelines in Zanzibar

Figure 1: Availability of malaria treatment guidelines and trained staff in Zanzibar by region (2014-15 TSPA)



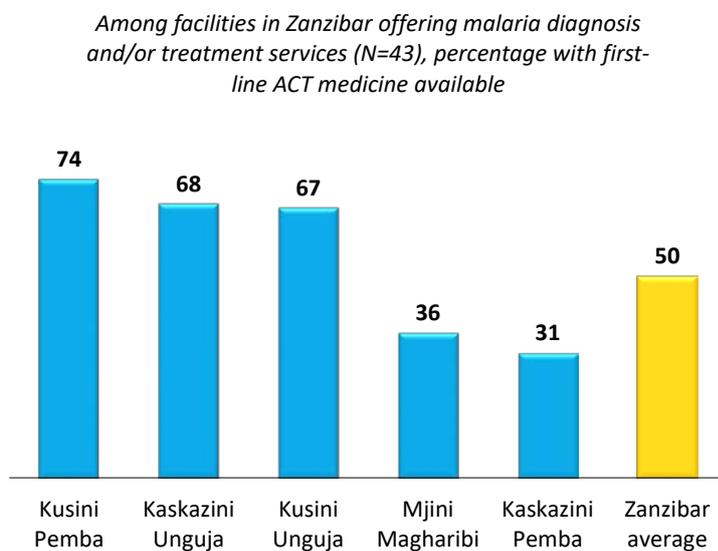
[Data on non-adherence to treatment guidelines](#)

Findings from the 2014-15 TSPA show that three-quarters of HFs offering malaria diagnosis and/or treatment services in Zanzibar had treatment guidelines and staff trained in malaria diagnosis and/or treatment (Figure 1). The availability of treatment guidelines and staff trained in malaria diagnosis and/or treatment was lowest in Mjini Magharibi (55% each) which was well below the Zanzibar average.

Only half of health facilities offering malaria services in Zanzibar had ACTs in stock (Figure 2). In Kaskazini Pemba, just 3 in 10 HFs had ACTs in stock, compared to 7 in 10 HFs in Kusini Pemba. Furthermore, among all observed sick child consultations observed in the 2014-15 TSPA, only 13% of sick children diagnosed with malaria were prescribed ACT. Data from 2016, 2017, and 2018 Annual ZAMEP reports indicate substantial improvements in availability and prescription of ACTs. Currently, treatment guidelines and ACTs are available in 100% of public HFs.

However, the situation is not the same in private HFs; ZAMEP's routine reporting shows patients diagnosed with malaria were not treated according to the national treatment guidelines. Non-adherence to treatment guidelines

Figure 2: Availability of first-line ACT antimalarial medicine in Zanzibar by region (2014-15 TSPA)



was observed in more than one-quarter of supervised private HFs. Even though the diagnosis was done correctly, treatment was not prescribed as per Zanzibar treatment guidelines. Private facilities did not possess treatment guidelines, nor the first-line ACTs.

Another key factor in ensuring adherence to malaria treatment guidelines is awareness of malaria and its treatment, which is low among women age 15-49 in Zanzibar. Data from 2017 TMIS show that just 40% of women in Zanzibar reported that ACTs can be obtained at the nearest health facility or



Strategies to Improve Adherence to Malaria Treatment Guidelines in Zanzibar

pharmacy. Furthermore, only 45% of women in Zanzibar have seen or heard messages about malaria treatment in the 12 months before the survey.

Conclusions and Implications for Policies and Programs

Zanzibar has reached the malaria elimination stage whereby the number of malaria cases reported per year are less than 5,000. To achieve the goal of malaria elimination, ZAMEP needs to improve case management strategies in order to provide quality diagnosis and treatment in both public and private health facilities. To further improve adherence to treatment guidelines, particularly in the private sector, provision of treatment guidelines, training and routine supervision should be emphasized in both sectors to provide standard malaria case management (early diagnosis by either microscope or mRDT and treatment within 24 hours). Provision of treatment guidelines and malaria logistics (mRDTs and recommended ACTs) can ensure the right diagnosis and quality treatment are offered to patients.

Recommendations

1. ZAMEP should train all public and private health care providers, supervise health facilities, and distribute new guidelines on malaria case management.
2. To increase community awareness on early treatment seeking behaviour, the program should develop and distribute malaria client charter with appropriate information/messages on malaria complications.