

**MALARIA QUARTERLY BULLETIN** is produced by the Project Management Unit (PMU), Directorate of Malaria Control (DOMC) and is a quarterly production.

## CONTACT

Project Management Unit (PMU),  
Directorate of Malaria Control, NACP building, First floor,  
National Institute of Health (NIH), Chak Shahzad  
Islamabad, Pakistan  
Tel: (051)9255773  
Web site: [www.domc.gov.pk](http://www.domc.gov.pk)  
E-mail: [info@dmc.gov.pk](mailto:info@dmc.gov.pk)

## Highlights

- Message from the Director
- Malaria at a glance
- Empowerment of Provinces
- Malaria trends in Provinces
- Activities by Directorate of Malaria Control
- From the field

## MESSAGE FROM THE DIRECTOR



Malaria control is among one of the most prioritized area of the Government of Pakistan. With the support of various national and international partners Government of Pakistan has been successful in making progress towards controlling malaria. Pakistan was successful in receiving The Global Fund (TGF) grant as New funding Model in March, 2015. Due to the support of TGF and untiring efforts of our partners we have been successful in implementing various activities for ending Malaria. These activities have focused towards provision of Long Lasting Insecticide treated Nets (LLINs), Indoor Residual Spray (IRS) and availability of malaria diagnostic and screening services in public health facilities. This also included advocacy and awareness activities at community level. I welcome you all to the first quarterly bulletin for Period – I (July – September 2016) of NFM grant which is a key feature of our efforts toward ending Malaria in Pakistan. The bulletin aims in providing information to various districts, national and global partners on progress achieved and challenges encountered towards malaria control. This bulletin will also highlight the achievements and activities of Directorate of Malaria Control (DOMC) along with its implementing partners at the national as well as provincial level. In the current bulletin we have explained various activities in which DOMC is involved. I am also delighted that this bulletin is being published and will be a regular feature on quarterly basis. I am also hopeful that due to untiring efforts of my team we will be able to make Pakistan a Malaria free zone in the times to come.

*Dr. Abdul Baseer Khan Achakzai*

## MALARIA AT A GLANCE

Directorate of Malaria Control (DOMC) is acting as Principal recipient for the Global fund grant. The Global fund is supporting malaria control

interventions in 66 high endemic districts. DOMC was implementing grant in 48 high endemic districts/agencies, whereas The Indus Hospital

(TIH) is implementing grant in 18 high endemic districts of Pakistan. The grant is mainly supporting diagnosis and treatment services both in public and private sectors. The facility staff is being trained for diagnosis, case management and surveillance. Also, both Principal Recipients (PR) are distributing LLINs in districts with Annual Parasite Incidence (API) more than 10/1000 total population. The mass distribution of LLINs is being carried out in 25 districts to achieve universal coverage along with Behavior Change and Communication (BCC) activities.

DOMC included 23 new districts for grant intervention from July, 2016 onwards. With this, now all (66) districts of stratum 1 as per National Strategic Plan (NSP) are included for Global fund grant interventions. It is anticipated that interventions would start take place from first quarter of 2017 in these newly included 23 districts.

## EMPOWERMENT OF PROVINCES

### Taking Provincial Program as Sub-Recipient (SR):

Post devolution, provincial health department's role has been extended to policy development, coordination and technical assistance, M&E and research. Decisions regarding collaboration with international agencies, implementation of activities also now lies with provinces. The Directorate of Malaria Control being the main lead in Malaria Control activities, has made a substantial progress and has taken a step further by taking Provincial Malaria Control Programs (Sindh, Balochistan, KPK and FATA) in 2015 as Sub-Recipients (SRs) under The Global Fund (TGF) grant to implement following activities:

- a. Monitoring and Evaluation
- b. Quality assurance
- c. Outbreak response
- d. Coordination and collaboration

This will further empower provincial and district health authorities and enhance their technical and

managerial capacities to cope with the emerged needs of the program.



## MALARIA TRENDS IN PROVINCES

Data indicates (Table 1) that Khyber Paktunkhwa (KPK) and Federally Administered Tribal Areas (FATA) has the highest parasite incidence 4.39/1000 population for the reporting quarter while Sindh and Balochistan have subsequently lower incidence 2.48 and 2.23 per 1000 population respectively. On the other hand, Blood Examination Rate (BER) is highest for Sindh (3.35) for the reporting quarter and is lower for KPK/FATA (2.16) and Balochistan (2.11). Considering the Falciparum Ratio (FR) KPK/FATA has shown improvement by reducing it to 4 as compared to other provinces.

**Table 1: Malaria Epidemiology (July-September 2016)**

Province	Parasite Incidence*	Blood Examination Rate *(BER)	Total Positivity Rate (TPR)	Falciparum Ratio (FR)
<b>KPK/FATA</b>	4.39	2.16	20.24	4
<b>Sindh</b>	2.48	3.35	5.17	22
<b>Balochistan</b>	2.23	2.11	8.23	17

\*The Indicators have been calculated for the reporting quarter



## ACTIVITIES BY DIRECTORATE OF MALARIA CONTROL (DOMC)

A variety of anti-malarial interventions have been implemented by DMC in collaboration with WHO and other partners leading to reduction in Malaria cases from 2010 to 2016. These activities include:

### a. Vector Control Measures

WHO recommends use of Long Lasting Insecticidal Nets (LLINs), which offer protection against malaria in the affected areas. If used by at least 80 percent of the affected population, these nets can help break the malarial transmission cycle, thus reducing the risk of the disease. Woven from insecticide-bound fibers, the nets kill potential disease-carrying mosquitoes on contact and offer protection from bites. The nets provide protection at night, when individuals are most vulnerable. They are safe for children and simple to hang up. DOMC is now distributing LLINs through mass distribution mechanism coupled with continuous distribution mechanism in order to ensure universal coverage in all those districts where API is more than 10/1000 population

The second method of vector control measure is Indoor Residual Spray (IRS). This includes application of the insecticide on the walls, roofs, animal shelters and other dwellings which serve as a resting place for the adult mosquito. IRS shortens the life span of mosquitos and thus reduces the vector density of the mosquitos. The IRS has been reserved for the outbreak response only.



### b. Malaria Diagnostic Test

Malaria Rapid Diagnostic Tests (RDTs) assist in the diagnosis of malaria by detecting evidence of malaria parasites (antigens) in human blood. RDTs permit a reliable detection of malaria infections particularly in remote areas with limited access to good quality microscopy services. DOMC has also extended diagnostic coverage by establishing microscopy centers. Approximately 80% of the public health facilities have been upgraded for malaria diagnosis. DOMC has also now taken the private sector onboard to ensure provision of free of cost diagnosis and quality treatment.

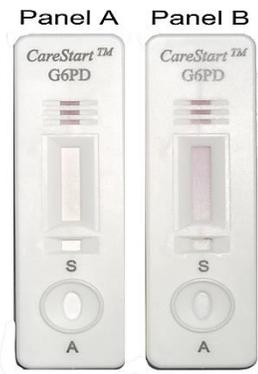
### c. Artemisinin - Based Combination Therapy (ACTs)

For Plasmodium Falciparum use of two or more drugs with different modes of action in combination is now recommended to provide adequate cure rate and delay development of resistance. Currently ACTs is recommended for the treatment of P. Falciparum malaria. ACTs are fast acting with minimal side effects, making it possible for patients to return quickly to their daily routines. The challenge is to ensure prompt and effective treatment with ACT.

### d. Pilot Testing of G6PD Screening

Glucose-6-phosphate dehydrogenase (G6PD) deficiency is an inherited condition in which the body doesn't have enough of the enzyme G6PD, which helps red blood cells (RBCs) function normally. This deficiency can cause **hemolytic anemia**, usually after exposure to certain medications, foods, or even infections. Primaquine used as a radical cure of P. Vivax is not safe to be used in individuals with G6PD deficiency since it can induce severe hemolysis which may result in death. The risk of inducing hemolysis while treating

P. Vivax infected patients with Primaquine therefore presents a serious risk to the patient.



Screening for G6PD deficiency for the radical treatment of P. Vivax with Primaquine is particularly needed in areas where G6PD deficiency is prevalent. **DOMC for the first time in Pakistan planned a pilot**

**for screening of G6PD deficiency in P. Vivax malaria cases in public sector health facilities** by using Rapid diagnostic kits. The pilot is expected to support DMC in identifying issues related with screening of G6PD deficiency through RDTs and would therefore guide the program for better planning for future. The data gathered during the pilot would also help in documenting the extent of G6PD deficiency amongst the various geographical areas and ethnic groups of Pakistan.

### e. Outbreak Management

Reports were consistently received about increased number of malaria cases from different health facilities in **District Mirpurkhas** during the months of April and August 2016. A team was assigned to visit the district and assess the reported higher number of confirmed Malaria cases in district Mirpurkhas. The team visited BHU Din Muhammad Junejo (RDT center), BHU Hingorino (RDT center), BHU Dangan Bhurguri (RDT center), village Pir Buksh Brohi and District Health Office (DHO) Mirpurkhas. The epidemiological data of last three years was collected. The mean +2SD method was used to calculate the epidemic threshold. In addition, Malaria focal persons of the district and health facilities, malaria supervisor, visiting patients and villagers were interviewed.

#### Managing Malaria in your Community

- Sleep under mosquito bed net every night.
- Not all fevers are malaria. Always test before treat.
- Always complete the dosage given to you. Do not stop if you feel better.
- Pregnant women should receive Malaria prevention treatment more than three times during pregnancy.

The malaria surveillance data of district Mirpurkhas for the last 5 years was analyzed.

**Table 2: Indoor and outdoor surveillance (house index, CI, BI)**

S.No	Localities	House visited	House positive	Pocket Pond searched	Pocket pond positive	Pupae collected	HI (%)
1	BHU Din Mohammad Junejo	20	15	26	15	5	75%
2	BHU Hingorono	10	8	13	7	6	80%
3	BHU Dangan Bhurgari	5	3	5	2	2	60%
4	BHU Jhalori	10	6	12	9	7	60%

Following recommendations were put forward by the team:

1. Establish early warning system in the district by maintaining weekly data charts at all health facilities.
2. Indoor Residual Spraying (IRS) should be planned in the nearby villages of the affected health facilities reducing adult Mosquitoes density.
3. Larvicidings for permanent breeding sites within the radius of 1 KM. Larviciding must apply for reducing larvae from breeding sites/water bodies surrounding high Malaria cases in Din Mohammad Junejo, Hingorino and Dangan Burghri.
4. Mobile Microscopy should be placed temporarily at district Mirpurkhas to know detail of the stage of parasite.
5. The quality assured diagnostic coverage must be increased within neighboring health facilities of district

Sanghar and Umerkot and must be given the status of RDT center. The private health clinics in the affected villages must be given the status of RDT center as well.

6. Strengthening of the Behavior Change Communication (BCC) component.

#### f. Vector Control Achievements

Indoor Residual Spraying (IRS) and Long Lasting Insecticidal Nets (LLINs) are the two core, broadly applicable malaria vector control measures. DMC along with their implementing partners distributed **640,212 LLINs** from April – September 2016 in different districts of Pakistan. (Table 3)

<b>S. No</b>	<b>Name of District</b>	<b>Name of Sub Recipient</b>	<b>LLINs distributed April-Sept-16</b>
<b>1.</b>	Jafferabad	ASD	72715
<b>2.</b>	Khairpur	PLYC	251,425
<b>3.</b>	FR Pesh/Kohat	ACD	30766
<b>4.</b>	Khyber	ACD	145,000
<b>5.</b>	Tharparker	PLYC	78,157
<b>6.</b>	Gwader	NRSP	26,749
<b>7.</b>	Kech	NRSP	13,000
<b>8.</b>	Kharan	NRSP	22,400
	<b>Total</b>		<b>640,212</b>

#### FROM THE FIELD

Shan Gul, 37 years old lady from a nomad family currently residing in Chagai narrated her story.

*“I got sick six months back. My husband bought me some medicines from a nearby drug store but it didn’t help. One night my condition got extremely serious. My husband got scared and consulted a molvi (religious scholar) of our village. He told my husband that there is some supernatural thing which is disturbing me and he can help if they offer him two of their goats. We declined his offer. Next morning Malaria team came in our area for the LLIN distribution. One of the team members saw my condition and referred me to a hospital where I got free treatment for malaria. I also received a free LLIN. I started recovering and eventually my condition became normal. I thanked almighty Allah and those working day and night for serving us in the hospital.”*