Malaria Control in India against the backdrop of COVID-19 Pandemic[1]

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Abstract: *This policy brief points out that global, national and local interventions to address COVID-19 has also led to attention-shifting and resource-shifting from other diseases. It is important that the overall progress towards a malaria-free tomorrow continues. In particular, surveillance systems need to be reinvigorated from the sub-district to national level, malaria protection measures like insecticidal nets and indoor sprays need to be augmented through the COVID-19 supply-chain management, awareness measures for prevention and control assume importance as we have no information on malaria as a co-morbid condition for COVID-19, the gram panchayats may ensure community participation, and that there is a need to converge the vector borne disease control and integrated disease surveillance programmes.*

COVID-19

Coronavirus disease, which originated from Wuhan, a city in the Hubei Province of China in December 2019, is named as COVID-19 by the World Health Organization (WHO) and is caused by a virus, severe acute respiratory syndrome coronavirus 2 (SARS-CoV-2). The first case of this viral disease was reported to WHO country office in China on 31 December 2019. WHO's timeline for the disease indicates that the disease was declared as a Public Health Emergency of International Concern (PHEIC) on 30 January 2020 and as a pandemic on 11 March 2020. As per Situation Report 111 of WHO of 10 May 2020, there were more than 39 lakh confirmed COVID-19 cases and more than 274 thousand deaths spread across all regions of the world. In India, the first case of COVID-19 was reported in Kerala, a southern state, on 30 January 2020 and by 11 May 2020 there were 67,152 confirmed cases and 2,206 deaths.

Malaria

Malaria is a life-threatening disease caused by the parasite plasmodium and transmitted by female anopheline mosquito vectors. It is an age-old public health scourge which infects and kills human population in large numbers, mainly in the low-and-middle-income countries (LMICs) of the tropics. As per the World Malaria Report 2019, 86 countries are under the risk of malaria and 22.8 crore cases of malaria occurred worldwide along with an estimated 4 lakh deaths in 2018, of which two-thirds were children under the age of five. Further, nineteen Sub-Saharan countries and India accounted for 85 per cent of the malarial burden. The

[1] The views expressed in this policy brief are those of the authors and do not represent the views of the organisations that they are affiliated to or are associated with. Usual disclaimers apply.

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estimated malarial cases for India ranged from 46 to 94 lakhs and the estimated deaths ranged from 1 to 18 thousand. In spite of the high burden of the disease, the key message of the report is that:

> *"on a global scale, there was exceptional headway made in reducing the burden of malaria in the period 2000–2015 – proof that progress is possible. Many countries with a low burden of malaria are moving quickly towards elimination. However, the rate of progress has slowed in recent years, and critical targets are likely to be missed."*

The shortfalls in resources in the path towards a malaria-free world was articulated before the entry of the COVID-19 in the realm of public health challenges. Post-COVID-19, the challenges are greater.

Impact of COVID-19 on Malaria

Now currently, due to the rapid and unprecedented spread of the COVID-19 pandemic, extensive and stringent precautionary measures, as per this Oxford governance tracker, have been undertaken in almost all the countries to flatten the curve. Lockdown, the most commonly used measure, has been widely introduced restricting livelihood and leisure-related movements and activities of large swathes of the global population. Public health systems have been geared to focus on containing and mitigating the viral epidemic. This, on the one hand, suggests that the existing health system at global, national and local levels have not prepared for this pandemic and calls for a paradigm shift in our public health thinking, and, on the other hand, the current emphasis on response to address COVID-19 is likely to have significant *attention-shifting* and *resource-shifting* from control and/or elimination activities leading to increase in incidence and burden of other deadly infectious diseases like human immunodeficiency virus (HIV), tuberculosis (TB) and malaria among others in many low and middle income countries (LMICs). India, which has done relatively well in malarial control in recent times, is likely to be one of them.

In particular, the lockdown must have led to significant disruption in malaria logistics and procurement processes of essential consumables such as malaria diagnostics and medicines. Moreover, diversion of frontline village-level health workers for COVID-19 community-based activities may hamper routine malaria surveillance, although early symptom-based surveillance followed by appropriate diagnosis and complete treatment remain the mainstay of treatment of this vector-borne disease. Additionally, disruption of other anti-malaria activities such as indoor residual spraying and active surveillance may also be a distinct possibility.

On top of that there is an overlap of symptoms between malaria and COVID-19 that include fever, flu-like symptoms and acute respiratory distress syndrome (ARDS), complicating matters even further. In the current pandemic situation individuals with these symptoms may not get malaria diagnosis and therefore treatment, but rather may be subjected to quarantine and isolation as COVID-19 suspects. At the same time, early clinical anecdotes led to use of

antimalarial drugs in COVID-19 treatment and prophylaxis which generated a huge worldwide demand for them. and This can also further hamstring the malaria programme.

It is perhaps these that have led Dr Pedro Alonso, Director of the Global malaria programme of WHO to send a clear message on 25 March 2020 to all malaria affected countries

> *"Do not scale back your planned malaria prevention, diagnostics and treatment activities. If someone living in a place with malaria, develops a fever, he or she should receive malaria diagnosis and care as soon as possible."*

WHO has also sent an alert before the World Malaria Day (25 April 2020) that severe disruptions to insecticide-treated net campaigns and access to anti-malarial diagnosis and medicines could lead to a doubling in the number of malaria deaths in sub-Saharan Africa this year compared to 2018. WHO urges countries to move fast, and distribute malaria prevention and treatment tools at this stage of the COVID-19 outbreak in sub-Saharan Africa, and to do their utmost to maintain these essential malaria control services. This message is aptly given in time, but whether malaria endemic countries and malaria funding donor countries would heed the message seriously is a matter of concern.

Effect on Malaria in a high endemic state of India, Odisha

Odisha, one of the high malaria endemic states of India, had traditionally reeled under the burden of falciparum malaria that had affected two third of its districts. But, Odisha has recently shown drastic reduction both in malaria cases and deaths. There is around 90 per cent reduction in malaria in the year 2019 in comparison to 2016. However, the state always remains vulnerable for resurgence of malaria, if and when the proverbial guards are down. The high rate of malaria reduction between the years 2017 to 2019 is a historical milestone for Odisha. The malaria reduction in Odisha changed the malaria map of India as per WHO's World Malaria Report 2018. There was 24 per cent reduction of malaria case load of India largely due to 81 per cent reduction achieved in Odisha. The contribution of mass screening and treatment (a strategy used in Odisha under the aegis of a state-specific project titled *Durgama Anchalare Malaria Nishkraman* (DAMaN, ଦୁର୍ଗମ ଅଞ୍ଚଳରେ ମ୍ୟାଲେରିଆ ନିଷ୍କ୍ରମଣ) to this remarkable decline is likely to be considerable, so is the impact of over 1.1 crore long-lasting insecticidal nets that were supplied by Government of India to Odisha under the support of Global Fund to fight AIDS (acquired immune deficiency syndrome), tuberculosis and malaria in 2017. However, one should not forget the strengthening of the routine malaria surveillance system in the state behind this humungous reduction in malaria case load.

But, the tropical climate of high humidity and rainfall and forested and hilly topography of Odisha continue to favour malaria transmission in monsoon and post monsoon seasons in the state, the three months starting in June. Therefore, anti-malaria activities are geared up during these three months and because of that the months of March to May are crucial to augment the malaria supply chain ensuring uninterrupted availability of all necessary consumables such as rapid test kits, antimalarial drugs (including chloroquine and

hydroxychloroquine), insecticides for indoor residual spray, spray equipment and long-lasting insecticidal nets.

The nationwide lockdown is likely to have already disrupted many of these critical preparatory activities. Additionally, after the use of long-lasting insecticidal nets for more than 2.5 years distributed during 2017, many have been weathered out or damaged. Government of India initially planned to supply the next phase of these nets in 2020. For this each district was to conduct household surveys and place the requirement to Directorate of Public Health of Odisha. During the lockdown period due to restriction of movement and other constraints, the survey is likely to have been disrupted and delayed. Thus, the entire process of long-lasting insecticidal nets supply by Government of India may be delayed.

There is also uncertainty and apprehension about the continuity of funding support for long-lasting insecticidal nets, as the global attention on COVID-19 management may lead to diversion of funds earmarked for malaria and other public health purposes. There may also be overflow of migrant population to Odisha state from other states during May and June. To have personal protection measures for prevention of malaria infection among these additional migrant population with the existing tools will be an additional challenge.

To conclude, there is every possibility that malaria control activities may be significantly disrupted against the backdrop of this ongoing COVID-10 pandemic, which is unlikely to go away soon, unless proactive measures are taken at global, national, state and local levels to preserve its critical components. The following section underscores few recommendations for that very purpose, or else we may be staring at a serious resurgence of this age-old scourge, malaria.

Recommendations for Malaria control during COVID-19

- One of the lessons from the current pandemic, if any, is that public health has to go beyond COVID-19.
- Amidst the prevention and containment measures for COVID-19, full attention must be paid for the prevention and control of malaria from national to sub-district level in all malaria prone regions of India to keep the malaria surveillance system agile, uninterrupted facility for diagnosis and treatment at community level as well as at health facility levels.
- All personal malaria protection measures like use of insecticidal nets, indoor residual spray must be augmented by any means. In fact, it should be taken up with equal measure as that for COVID-19. In fact, the supply chain management for obtaining medical equipment should be used for this addressing obtaining these.
- Along with the health awareness activities for COVID-19, needful health awareness activities for prevention and control of malaria and other febrile diseases must be integrated. In fact, this should be taken up as a priority because we do not have any clinical evidence on management of COVID-19 with malaria as a co-morbid condition from other countries like China, Europe and the Unites States as they do not malaria endemic regions.

- In recent times, Gram Panchayats have been vested with additional power in their hands, they should have local strategies for malaria prevention and control along with community participation for the purpose. In fact, this should be part of a larger strategy on sanitation which would have positive implications in reducing many other communicable (including other vector borne) diseases.
- The National Vector Borne Disease Control Programme (NVBDCP) and Integrated Disease Surveillance Programme (IDSP) should work in close coordination to detect any malaria outbreak early and contain the same immediately. Incidentally, IDSP seems to have stopped releasing its weekly outbreak reports after the sixth week (3-9 February) of 2020, at a time when it should be active and reporting not only about COVID-19 but also should have been keeping a tab on other disease outbreaks. The state and district wings of IDSP need to be active and continue their surveillance for malaria as also other possible outbreaks including COVID-19.

This is the eighth NCDS policy brief in the COVID-19 series. The other seven have been on analysis of cases across countries and provinces of China (PB12NCDS, 20 March 2020), on behavioural biases that could lead to panic like asking health care professionals to leave rented premises (PB13NCDS, 25 March 2020), on strengthening COVID hospitals and concerns of community transmission in Odisha (PB14NCDS, 28 March 2020), କୋଭିଡ-୧୯ ମହାମାରୀ ସମୟରେ ପୁଷ୍ଟିକର ଖାଦ୍ୟର ଉପଯୋଗିତା (PB15NCDS, 7 April 2020), which is an Odia translation of "Maintaining a healthy diet during COVID-19 pandemic" prepared by the Food and Agriculture Organization of the United Nations, a cross-country analysis of positive cases and testing (PB16NCDS, 11 April 2020), frequently asked questions on rapid antibody test (PB17NCDS, 20 April 2020; ଯାହାର ଓଡ଼ିଆ ସଂସ୍କରଣ, PB17aNCDS, 23 April 2020), and on movement of migrant labourers (PB18NCDS, 27 April 2020; ଯାହାର ଓଡ଼ିଆ ସଂସ୍କରଣ, PB18aNCDS, 3 May 2020)

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