Case Study

Combating the Spread of Malaria in India during COVID-19

photo: Malaria No More / Sephi Bergerson
With over 3 billion people actively using Facebook services, the reach of the platform allows for the dissemination of life-saving information to populations at scale. Billions of posts are shared on Facebook every month. These posts can help reveal how communities feel about issues related to gender, public health and natural disasters. By analyzing trends in public conversations and sharing these insights with non-governmental organizations (NGOs), Facebook helps NGOs reach target populations through better-informed outreach campaigns. This case study explores how Facebook partnered with Malaria No More to reach approximately 110 million people in India with effective messaging for malaria prevention.

ABOUT MALARIA NO MORE

Malaria No More (MNM) is an NGO founded by business leaders Peter Chernin and Ray Chambers in 2006 at the White House Summit hosted by President George W. Bush. Malaria No More envisions a world where no one dies from a mosquito bite and more than a decade into that mission, their work has contributed to historic progress toward this goal. Now, Malaria No More is mobilizing the political commitment, funding, and innovation required to achieve what would be one of the greatest humanitarian accomplishments—ending malaria within our generation. They have offices in Seattle, Washington D.C., Delhi and Bhubaneswar (India), with affiliates in the United Kingdom and Japan.

With a focus on driving political leadership and securing funding necessary to end malaria, Malaria No More has contributed to the global effort that has saved 7 million lives and prevented more than 1 billion malaria cases.
In early 2020, Malaria No More and Facebook teamed up to combat the spread of malaria via a Facebook ad campaign. The main goals of the campaign were twofold:

01 Promote sleeping under bed nets nightly to protect oneself, one’s family, and one’s community from mosquitoes.

02 Encourage people to seek testing and treatment for malaria symptoms within 24 hours of the onset of fever, even during the COVID-19 pandemic.
Step 1. Insights

FACEBOOK WORKED WITH MALARIA NO MORE TO UNDERSTAND HOW PEOPLE WERE TALKING ABOUT MOSQUITO-BORNE DISEASE

The Facebook team analyzed data derived from public Facebook posts on health and mosquito-borne disease in order to help Malaria No More’s strategy and content development. The post data analyzed included data from December 2019 - March 2020. Since privacy was paramount for both organizations, all analyses were based on de-identified, public posts. This means Facebook produced actionable insights without revealing any information about individuals or changing anyone’s experience on the platform.

Who is actively posting about mosquito-borne disease on Facebook?

The analysis uncovered important age and gender differences in who engages in conversations about mosquito-borne disease in India. Mosquito-borne disease is a topic that men were highly engaged in India as they indexed higher than women; additionally, people 45 years and older were more likely to post about mosquito-borne disease. Given these age and gender dynamics, it was important to have content which women and younger audiences would find engaging and memorable.

By contrast, we also learned that older audiences over-index for mosquito-borne disease can be advocates for the issue.

People living in rural settlements posted at a lower rate about mosquito-borne disease as compared to those living in urban areas, and were more likely to post in Hindi or local languages than in English. This insight highlighted the need to have non-English content to resonate with people in non-urban settlements.

Mosquito-borne Disease Post Prevalence by Age and Gender

1 Indexed higher indicates they had a larger proportion of posts which mentioned mosquito-borne disease terms.
How are people talking about mosquito-borne disease on Facebook?

In analyzing the substance of mosquito-borne disease conversations, the analysis identified notable gender differences from public posts and hashtags. Women were more likely to emphasize protection against mosquito-borne disease (e.g. nets, body spray), the commercial procurement of these items (where and how to buy them), family and health more generally. Additionally, women were more likely to post about mosquitoes (the vector) and tended to emphasize rain and the seasonality of weather. Analysis of the top hashtags related to mosquito-borne disease for women revealed that hashtags such as ‘#mosquitorepellent’, ‘#mosquitobites’ and ‘#mosquitorepellentspray’ ranked highly for females and not males. These findings demonstrated that women seemed to be more solutions-focused when posting about malaria and other vector-borne diseases, often highlighting how they can prevent bites and protect themselves and family.

Men on the other hand, were more likely to post about government, healthcare, symptoms and treatment. Furthermore, in posting about mosquito-borne disease, men were more likely to mention water stagnation/drainage, economic welfare and awareness days such as World Malaria Day and World Mosquito Day. Some of the highest ranking hashtags for men included ‘#worldmalaridiy’ and ‘#savethedoctors’; notably, these hashtags did not rank highly for women. Therefore, in posting about mosquitoes, men were more systems-focused as opposed to solutions-focused. Posts by men often highlighted more macro or community-level aspects of mosquito-borne disease.

<table>
<thead>
<tr>
<th>Women</th>
<th>Men</th>
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<tbody>
<tr>
<td>#dengue</td>
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<td>#mosquitorepellent</td>
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<td>#swasthabharat</td>
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Across men and women, almost half of mosquito-borne disease posts mentioned COVID-19 with many conversations emphasizing the importance of other endemic diseases like malaria. Further, people in rural areas praised local health initiatives and health workers. These findings unearthed some important themes to emphasize in creative content, such as themes related to health workers and the COVID-19 pandemic.

**Step 2. Action**

**MALARIA NO MORE CREATED A TAILORED CAMPAIGN BASED ON THE INSIGHTS AND LESSONS**

Malaria No More used the initial research insights and audience personas to improve the effectiveness of their education and prevention campaign. For instance, these insights informed their campaign strategy and helped them craft online campaigns that would complement the existing conversation and resonate with the communities they wanted to reach. By understanding the specific audiences present on Facebook in India and how they were talking about mosquito-borne disease, the campaign was able to develop tailored content and messages based on audience characteristics, habits, and interests.

The campaign’s slogan, ‘Bite Ko Mat Lo Lite’ or ‘Don’t Take the Bite Lightly’, emphasized the need to take the threat of malaria seriously while encouraging people to use bed nets and seek testing if symptoms arise.

**Creating personas for targeting Specific Audiences**

The Malaria No More team overlayed their local, community knowledge with the insights from the Data for Good to develop six personas: Young Urban Men, Young Urban Women, Urban Seniors, Rural Young Women, Rural Young Men, Rural Seniors. Each persona contained demographic details, the barriers each audience may face when it comes to protecting themselves and loved ones, and the types of content this group of people would be likely to engage with on Facebook. Malaria No More’s creative team used these personas as creative touchstones. Throughout the campaign the Facebook ads platform empowered Malaria No More to finely target their creative so that the right audience got the right message at the right time.
Developing Content to Engage both Female and Male Audiences

Insights from public posts revealed that women tended to emphasize family and protection against mosquitoes. Hence, the content development team worked to develop content that women would find engaging; this included content highlighting children and motherhood. Some ads outlined the detrimental effects that malaria can have on pregnant women.

Content to activate women:

Men, on the other hand, tend to emphasize less personal aspects, such as government, healthcare, symptoms, treatment, and awareness days. Content was also developed to engage male audiences including content which featured the popular sport cricket.

Content to activate men:
Activating Older and Younger Audiences

Younger audiences, especially in the 18-24 age bucket, were posting about malaria and other mosquito-borne diseases at a lower rate when compared to older people. We made a conscious effort to use meme-styled content and humor to engage this audience.

The insights demonstrated that older people were disproportionately more likely to post about malaria and other mosquito-borne disease; this made older people important advocates for promoting the campaign's objectives. Thus, content was developed specifically for grandparents encouraging them to have their grandchildren tested if they experience malaria symptoms.

Content to activate Younger Audiences:

Content to activate Older Audiences:
Content for Rural Audiences

The insights revealed that in rural areas, people were posting about malaria and other mosquito-borne diseases at a lower rate than people in urban areas; this finding underscored the need to produce resonant content for rural audiences since malaria disproportionately occurs in rural areas. Furthermore, less urbanized areas were found to post less about mosquito-borne disease in English; this demonstrated the need to have content in other languages including: Hindi and Hinglish. Moreover, analysis of public posts revealed that rural residents highlighted an appreciation for ASHAs (community health workers).

Content for Rural areas:

COVID-19 Pandemic

The campaign occurred during the context of the COVID-19 pandemic and one of the main goals was to limit the rise of malaria fatalities during COVID-19 by encouraging people to engage in preventative behavior and to seek testing. Moreover, several symptoms of COVID-19, such as fever, are similar to symptoms for malaria; this further underscores that people seek testing to know their health status. Analysis of posts showed that a large number of mosquito-borne disease posts also mentioned COVID-19, with many posts mentioning the continued threat of malaria and other mosquito-borne diseases.

Acknowledging the pandemic, the creative team wanted to highlight the continued threat of mosquito-borne disease and developed content encouraging people to get tested for malaria and take protective measures.
Step 3. Impact

WE THEN EVALUATED THE CAMPAIGN

The digital campaign reached approximately 110 million people in India from June-November 2020. To understand how people were responding to the ads, we performed a campaign survey comparing people who saw the ads (the treatment group) to those who did not (control group). The survey results suggested that people were inclined to seek testing for malaria or use bed nets as a result of the campaign. These results were statistically significant at the 93% confidence level.

When asked “Do you remember seeing ads from Malaria No More online or on a mobile device in the last 2 days?”. We observed a +4.6 percentage point increase compared to people who had not seen the ads and was statistically significant with 99% confidence.

To understand whether the ads encouraged people to seek testing for malaria, we asked “Which of these actions should you take within 24 hours of a high fever?” to which 65% of respondents answered “Get tested, it can be malaria.” This outcome represented a +2.6 percentage point lift in people indicating that they would seek testing for malaria as a result of the campaign.

When asked “How important is sleeping under a mosquito net every night in helping to protect you from mosquito-borne illnesses?,” we did not observe a lift in comparing treatment and control. However, approximately 87% of respondents already agreed that mosquito nets were important, making it more difficult to change attitudes with such high baseline acceptance.

When asked “Did you sleep under a bed net last night?,” we did not observe a lift in comparing treatment and control groups in aggregate. However, there was a lift of +8-10 percentage points in bed net usage for older demographics aged 55 plus.

“One of the biggest risks during a pandemic is that people’s normal health-seeking behavior would be disrupted. That would have disastrous consequences for malaria, a disease which can kill within 24 hours of the onset of fever. Working with Facebook, we were able to rapidly mount a national-scale campaign – tailored and optimized to different geographies and demographics – that had a measurable impact on driving people to seek timely testing and treatment for malaria”

— Martin Edlund, CEO of Malaria No More
Other Key Learnings

I. Difference in Perceived importance of Bed Nets and Actual Net Usage

Most respondents already agree that it is important to use bed nets with 87% of respondents in the control group indicating this. However, only 28% of respondents in the control group indicated that they slept under a bed net the night before; highlighting a major disparity in perceived importance and action.

II. Gender Disparity in Net Usage

Bed net use at night was higher for women when compared to men, at 36% to 26% respectively. This reflects analysis of post data conducted by Facebook which revealed that women were more likely than men to post about items which provide protection from mosquitoes (including: bed nets, repellent, insecticide etc.).

III. Language Matters

Though English is widely spoken in India, many of the rural audiences Malaria No More was trying to reach do not speak English. Malaria No More therefore posted content in English, Hindi, and Hinglish (a mix of Hindi and English) and found that Hindi and Hinglish content was often more popular.

IV. Continuous Content Testing Leads to Better Performing Content

Malaria No More created over 300 unique pieces of content to share on Facebook during the campaign, and used Facebook’s A/B testing capabilities to help further refine the creative process. Testing what content performed best enabled the campaign to continue learning outside the formal analyses of the campaign survey.
Conclusion and Future Work

This collaboration with Malaria No More and Facebook demonstrates that strong data-driven partnerships can encourage positive health behaviors and potentially save lives. Facebook worked to provide aggregated, de-identified data insights to Malaria No More on the public dialogue around malaria in India. Using those insights, Malaria No More worked with a creative team to develop content and launched a campaign encouraging people to take action to protect themselves from malaria and seek testing. Overall, the campaign reached millions of people in high-risk malaria states and the results of the survey showed that the ads were effective in promoting test seeking and bed net usage.

Malaria No More will be taking these lessons learned and continuing to refine the Bite Ko Mat Lo Lite campaign to reach more Indians and spread the impact even further. The Bite Ko Mat Lo Lite campaign used an innovative approach of continuing to produce new campaign and social media content throughout the campaign based on audience feedback, rather than developing a suite of materials prior to the start of the campaign. This enabled Malaria No More to create content that resonated with the audiences. Moving forward MNM will further refine and narrow the audiences to tailor our life-saving messages for greatest impact and continue developing this content in local languages.

Acknowledgments

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