VESTERGAARD[®]

RESPONSE TO ARTICLE IN MALARIA JOURNAL 30 January 2023

PermaNet 2.0 long-lasting insecticidal net (LLIN) has played a vital role in reducing malaria transmission since it first received a recommendation for malaria prevention and control by the WHO in 2004. Since then, PermaNet 2.0 has been the most tested LLIN in both laboratory and field studies around the world. PermaNet 2.0 nets are effective and meet WHO bioefficacy criteria. This efficacy has been reaffirmed through 20 years of product testing.

The objective standard of LLIN performance is whether a product complies with the WHO requirements. The WHO sets out very clear guidelines for how the nets are tested to determine compliance with these standards. The authors¹ of the article failed to fully follow these WHO guidelines for laboratory and field-testing of long-lasting insecticidal nets. This has resulted in findings that are not consistent with the performance of PermaNet 2.0 nets on the ground in Papua New Guinea.

The authors of the article determined bioefficacy using WHO cone bioassays. However, the WHO guidelines clearly outline a requirement for subsequent testing with WHO tunnel tests if the LLIN does not achieve the criteria set for cone tests. Based on the WHO guidelines, the results of cone and tunnel tests are considered together when judging LLIN performance.

As correctly cited by the authors of the report, in 2012 we were required to change the fluoropolymer coating that makes our nets water-resistant. The specific formulant that was used to coat PermaNet 2.0 had been linked to environmental and human health concerns and had to be discontinued. To our knowledge, these chemicals are no longer being used in our industry. Any changes made to our products are in line with global regulations and are only implemented after validating that the product fulfils both WHO product specifications and WHO efficacy criteria.

Rising rates of malaria in Papua New Guinea are a concern to us and any organization dedicated to the elimination of malaria. It is no doubt essential that Papua New Guinea and other malaria endemic countries have access to effective, high quality malaria prevention products. Many years of research have proven that LLINs are one of the most effective interventions in the fight to end malaria. It is important that any studies into their effectiveness are science based and conducted in line with WHO standards, to avoid undermining the value of LLINs as a core malaria prevention tool.

We welcome a continued focus on the efficacy of LLINs and we are committed to working with donors and the WHO Vector Control Product Prequalification to resolve any doubts about the efficacy of PermaNet 2.0. Meanwhile, we maintain our efforts to tackle the threat that insecticide-resistant mosquitoes pose to the effectiveness of LLINs with vital product innovation and the scale-up of next-generation long-lasting insecticidal nets.

1. Bubun, N., Anetul, E., Koinari, M., Freeman, T. W., & Karl, S. (2022). Coating formulation change leads to inferior performance of long-lasting insecticidal nets in Papua New Guinea. *Malaria Journal*, *21*(1), 349.