

Net migration or non-use? Bed net ownership following mass distribution campaigns on Bioko Island, Equatorial Guinea.

Jordan Smith, Jose Osa Osa Nfumu, Liberato Motobe Vaz, Dianna E.B. Hergott, Wonder Philip Phiri, Julie Niemczura de Carvalho, Guillermo Garcia, Christopher Schwabe, Jackie Cook, Immo Kleinschmidt.

The objective of this study was to describe the patterns of use and explore factors related to attrition following two long-lasting insecticide treated net (LLIN) distribution campaigns. A large discrepancy was measured between the numbers of LLINs that households received during mass distribution versus the numbers reported and observed in the same households at three intervals. In 2015, the National Malaria Control Program (NMCP) led a mass distribution campaign on Bioko Island. At least one new LLIN for every two people was delivered to 88.2% of households, and the numbers of LLINs physically hung were recorded. One year later, before a campaign to hang LLINs in 3,510 high-risk households, the NMCP recorded the number of LLINs households reported owning. During an indoor residual spraying (IRS) campaign, 78% of the high-risk households were revisited, and the number of LLINs observed was compared to the number hung during previous distributions. Before the top-up campaign, the number of LLINs households reported owning fell 55.6% from the number that had been hung during mass distribution. During the targeted IRS campaign that occurred on average 30 days after top-up, the number of LLINs observed by sprayers decreased 40.5% from the number hung during the top-up campaign. Approximately 58 days after top-up, the annual malaria indicator survey visited 267 of the high-risk households. Only 58.6% of respondents reported sleeping under a bednet the night before. Among respondents who reported no longer owning a bed net, 21.3% reported transferring a net to others. The average number of LLINs observed decreased from the number previously distributed by -1.63 among households that reported not travelling off the Island in the previous 8 weeks and by -2.33 among households that did. Despite achieving target LLIN coverage on Bioko Island, attrition rates pose a threat to one of the principal vector control strategies established by the NMCP. Work should be undertaken to address the lack of vector control interventions on the mainland of Equatorial Guinea, where it is believed many LLINs are being transferred to populations at high risk of malaria infection.