

Utilisation et coût de la moustiquaire imprégnée d'insecticide à longue durée de vie (LDD) après la campagne de distribution de masse dans la province du Kasai Occidental, en République démocratique du Congo

Long-Lasting Insecticidal Nets (LLIN) ownership, use and cost after mass distribution campaign in Kasai Occidental Province, Democratic Republic of Congo

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Summary

Introduction. Long-Lasting Insecticidal Nets (LLIN) are highly effective means for preventing malaria infection and reducing malaria morbidity and mortality, particularly in endemic areas. Mass free distribution campaigns have been shown to rapidly increase LLIN ownership and use. To accelerate the progress towards the goal of increasing coverage and use of LLINs, around 3,5 million LLINs were distributed free of charge in Kasai Occidental province in the Democratic Republic of Congo (DRC) using two different approaches, a fixed strategy and a door to door strategy with hang up activities.

Methods. Repeated community based cross sectional surveys were conducted before and six months after the mass distribution. Descriptive statistics were used to measure change in key malaria household indicators. Univariate and multivariate logistic regression analyses were used to identify factors associated with LLIN use before and after the mass distribution. A comparative financial cost analysis between the fixed and door to door distribution strategies was carried out from the provider's perspective.

Results. Household ownership of at least one LLIN increased from 39.4% to 91.4% and LLIN

universal coverage, measured as the proportion of households with at least one LLIN for every two people increased from 4.1% to 41.1%. Population access to LLIN within the household increased from 22.2% to 80.7%, while overall LLIN use increased from 18.0% to 68.3%. Higher LLIN ownership was achieved with fixed delivery strategy compared with the door to door while distribution strategy didn't have an impact on LLIN use. Malaria prevalence among children aged 6-59 months was 44.8%. Living in household with sufficient numbers of LLIN to cover all members was the strongest determinant of LLIN use. The total financial cost per LLIN distributed was 6.2 USD for the fixed distribution strategy and 7.2 USD for the door to door strategy.

Conclusion. Mass distribution campaign was effective at rapidly increasing LLIN ownership and use. These gains need to be consolidated for long term reduction in malaria burden. Fixed delivery strategy achieves higher LLIN coverage at lower delivery cost compared with door to door strategy and should be the preferred distribution strategy in the context of DRC.

Keywords: cost, Long-Lasting Insecticidal Nets, malaria, determinant