The Global Program to Eliminate Lymphatic Filariasis (GPELF) is based on a strategy of mass drug administration (MDA) with 4 to 6 annual rounds of antifilarial medications with the goal of reducing the reservoir of blood microfilariae (MF) below the level required for transmission by mosquitoes. However, five rounds of MDA have proved to be insufficient to interrupt transmission in some countries in Africa, Asia and the Pacific region. Though a strategic plan for employing vector control routinely in GPELF has not yet been formulated, research studies have clearly shown that the use of bednets, residual spraying and polystyrene beads to combat mosquitoes can impact LF endemicity. Current recommendations call only for the use of such techniques to supplement the MDA activities whenever feasible and affordable.

One of the objectives of our ICIDR project is to compare the impact of MDA alone with MDA plus vector control (Long lasting insecticide treated bednets) in Papua New Guinea (PNG) where the Global Fund is supporting a nationwide distribution of long lasting insecticide treated bednets. We have previously shown that untreated bednets are protective against LF infection and disease in PNG. To give us some indication of the impact of combining bednet vector control measures with MDA in the District where our current ICIDR study sites are located we analyzed the effect of untreated bednet usage on MDA in an island community where MDA was carried out using WHO recommended DEC alone or DEC plus albendazole. The MF status of 245 filarial antigen positive individuals who received treatment as assessed according to bednet usage before and 24 months after treatment. The proportion of MF positive people who reported using bednets was 61%. There was no significant difference in the MF rates of bednet users (52.3%) and non users (55.1%) before MDA. However, 24 months after anti-filarial treatment MF rates for the users and non users of bednets were 12.3% and 35.5%, respectively (P < put number here). This finding supports the hypothesis that vector control using long lasting insecticide treated bednets could reduce the number of MDA rounds required to interrupt transmission.