

The Need To Strengthen Malaria Control in the Caribbean in the Era of HIV/AIDS

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Globally, malaria and the human immunodeficiency virus (HIV) exact a tremendous toll in human suffering and death. There were an estimated 247 million malaria cases in 2006 causing an estimated 881 000 deaths, of which 85% were children under five years of age (1). In 2008, 109 countries were endemic for malaria and approximately 3.3 billion people were at risk (1). An estimated 33 million persons were living with HIV in 2007. Approximately 2.7 million persons were newly HIV infected in 2007 of whom 370 000 were children under 15 years of age. Over 2 million persons died from HIV/AIDS in 2007 including 270 000 children (2). Together HIV/AIDS and malaria account for nearly 3 million deaths annually of which one-third are children.

Malaria was eradicated from most Caribbean countries in the 1960s, Hispaniola being a notable exception (3). Reports of imported malaria are common throughout the region. However, malaria has re-emerged in the past two decades and is endemic in Guyana, Suriname and Belize. In recent years, there have been malaria outbreaks in The Bahamas (4) and Jamaica which required significant effort and resources to control. The paper by Rawlins *et al* is a timely reminder that the re-emergence of malaria is an ever present threat and that continued complacency will not go unpunished (5). Certainly, we wish to avoid the heavy malaria burden as described among school children (20.8% prevalence of *Plasmodium falciparum*) in a region of Nigeria by Ekpenyong and Eyo (6).

The risk of the re-introduction of endemic malaria in the Caribbean has increased due to a number of factors. There has been an increase in travel by Caribbean nationals to countries with endemic malaria and an increase in the number of visitors from these countries to the Caribbean. Refugees from Haiti have been identified with malaria (7) and there are anecdotal reports of illegal movement of people between Haiti and other Caribbean countries. The anopheles mosquito, the vector of malaria, is endemic in virtually all Caribbean countries (5). Moreover, the anopheles mosquito

appears to have adapted to breeding in a variety of sites in urban settings which were not anticipated as seen in the malaria outbreak of 2006–2007 in Kingston, Jamaica. Many Caribbean countries have limited vector control programmes and specific expertise in relation to malaria is scarce. Caribbean governments need to do more to strengthen their vector control programmes and surveillance systems, including specific expertise in malaria, in order to prevent the further resurgence of malaria in the region.

Clinicians have a critical role to play. Their vigilance with respect to investigating persons with fever possibly having malaria is an essential aspect of an effective surveillance system. A request for a blood smear to rule out malaria may be in order even where a travel history is not given. Another concern is that chloroquine resistant malaria is now the norm in most endemic countries in Africa and Asia and has been reported in Guyana and Suriname and recently described in Panama (8). Physicians need to remind travellers to malaria-endemic countries to take appropriate chemoprophylaxis. A review of malaria cases among persons in the United States of America (USA) found that 67% of them had not taken a prophylactic drug during travel to a malaria country (9). Measures to avoid mosquito bites such as use of insect repellent, wearing long sleeves and long pants, staying indoors and use of flying insect sprays or mosquito coils to clear rooms of mosquitoes and sleeping under bed-nets should also be encouraged (10).

In contrast to the widespread complacency with respect to malaria, the Caribbean has a well-developed response to the HIV epidemic although some areas of policy remain unaddressed (11). Some commentators argue that the significant resources channelled to HIV/AIDS are distorting the health services instead of strengthening the health system (12). Certainly, there has been considerable progress with respect to antiretroviral treatment and prevention of mother-to-child transmission resulting in a reduction in mortality and morbidity due to AIDS. The scope and quality of HIV prevention needs to be improved in order to reduce the number of new HIV infections and control the epidemic.

While many Caribbean countries have generalized epidemics with low HIV prevalence, HIV rates among those most at risk, including sex-workers and men who have sex with men (MSM), tend to be unacceptably high (11). The report from Neguy *et al* calls attention to the increased

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vulnerability of mine workers in the interior of Guyana (13). There are other occupational groups in the Caribbean including tourism workers, taxi drivers and truckers that may be worthy of study.

An interesting report from Adeleye *et al* found resistance to cotrimoxazole among all eleven isolates of *Streptococcus pneumoniae* from sputum specimens of HIV-infected patients in Nigeria (14). This is an important finding because of the routine use of cotrimoxazole for prophylaxis in advanced HIV infection. However, one would not expect cotrimoxazole to be the antibiotic of choice if a diagnosis of pneumonia is suspected unless it was due to *Pneumocystis jirovecii*.

The four papers (5, 6, 13, 14) in this issue of the journal are a small reminder of the considerable challenges that are faced in controlling both Malaria and HIV/AIDS. While Caribbean countries have accessed significant resources for HIV from the Global Fund to fight AIDS, Malaria and Tuberculosis, only Haiti, Guyana and Suriname have accessed funding for malaria. It is now time for other Caribbean countries to seek funding from the Global Fund in order to better address the real threat of malaria to the region.

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