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Seasonal and geographic variation of pediatric malaria in Burundi: 2011 to 2012

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We analyzed hospitalization records from 2011 to 2012 to examine the spatial patterns of pediatric malaria in Burundi. Malaria case data for those below the age of five years were categorized according to the four principal seasons of Burundi, which are two rainy seasons (February to May; September to November) and two dry seasons (June to August; December to January). The Getis-Ord G_i^* statistic was used to examine seasonal spatial patterns of pediatric malaria, whereas geographically weighted regression (GWR) were used to examine the potential role of environmental variables on the spatial patterns of cases. There were a total of 19,890 pediatric malaria cases reported during the study period. The incidence among males was higher than that among females; and it was higher in rural districts. The seasonal incidence peaks occurred in the northern half of the country during the wet season while during the dry season, incidence was higher in southern Burundi. Elevation played a greater role in explaining variance in the prevalence of pediatric malaria during seasonal peaks than rainfall. The counterintuitive finding in northern Burundi confirms previous findings and suggests other factors (e.g., land cover/land use) facilitate the persistence of the mosquito population in the highlands of Africa.

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