Susceptible-Infected-Recovered (SIR) Models: Malaria in Ethiopia

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Malaria is a leading cause of morbidity and mortality in developing countries and it is one of the most severe public health problems worldwide. For better understanding of the disease transmission and for appropriate intervention, modeling the transmission of malaria disease and cost of intervention is crucial. Specifically, to Ethiopia, there are about 68% of the populations at risk of Malaria and there is approximately an average of 5 million cases a year. We compiled the Ethiopian monthly malaria cases from 2013 to 2019 (7 years) along with death rates obtained from WHO reports and this presentation is then to review and discuss the susceptible-infected-recovery (SIR) and its extension of ssusceptible-exposed-infected-recovered-death (SEIRD) mathematical modeling to analyze the transmission of malaria.

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