

ABSTRACT

The basic reproductive number (R_0) is a threshold parameter for a population-level model of infectious disease control. The basic reproduction number is derived by epidemiologists using different techniques. It is used to estimate the basic reproductive rates of infected and susceptible hosts and to guide intervention strategies. In this paper, we give an overview of the methods used in the derivation of R_0 and assess the use of R_0 in the literature. Finally, we discuss some of the limitations and alternatives to the basic reproduction number that have been identified in the literature. The main contribution of this paper is to provide a guideline and shed light on the basic reproduction number to mathematical modellers and policy makers in order to prevent the possible blown out of the epidemic in the susceptible population.