1135-92-1460 **Jim M Cushing*** (cushing@math.arizona.edu), Department of Mathematics, Program in Applied Mathematics, University of Arizona, Tucson, AZ 85721. *Remarks on the definition of R_0.*

In population dynamics, the basic reproduction number R0 is, by definition, the expected life time number of offspring produced by a newborn individual. The formulation of R0 in a model requires the specification of what events are considered as "reproduction" events and what events are considered as a "transitions from one individual state to another". Thus, an element of choice can creep into the definition and there are multiple possible net reproduction numbers. While the biological meaningfulness of each can be debated, mathematically there is no "correct" definition. Moreover, general theorems guarantee that all serve to determine population growth or decay (depending on the relationship to 1). Similar remarks apply to the definition of R0 in models of infectious diseases. Some simple model examples will be used to illustrate these points. (Received September 22, 2017)