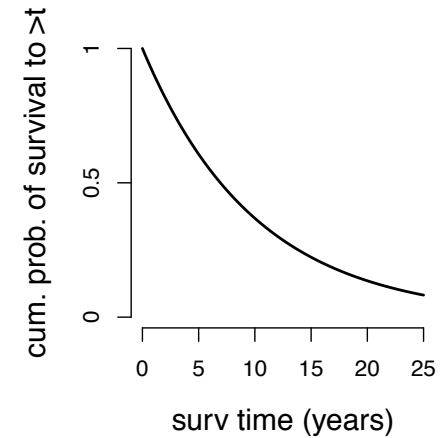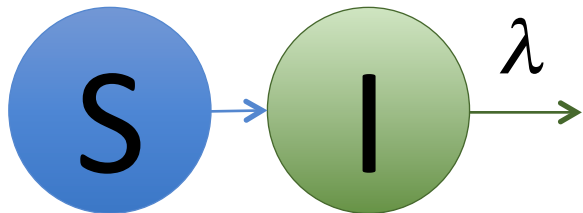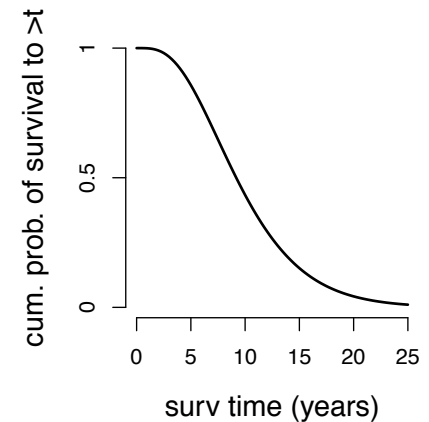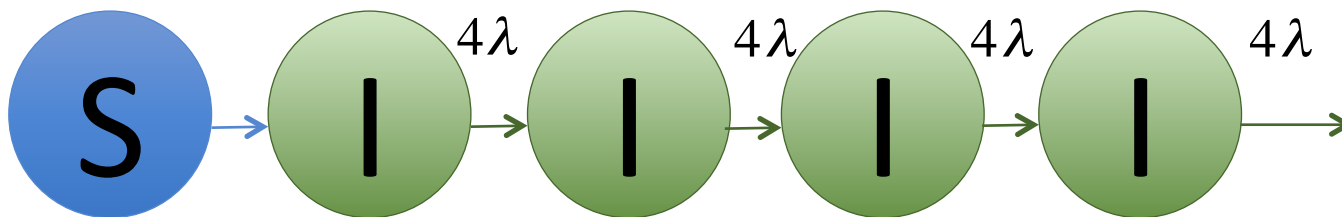# Justification of the Distributed Delay (Boxcar Model)
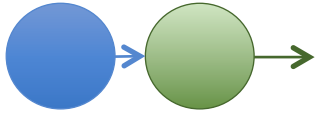
Exponential survival:

Gamma survival:
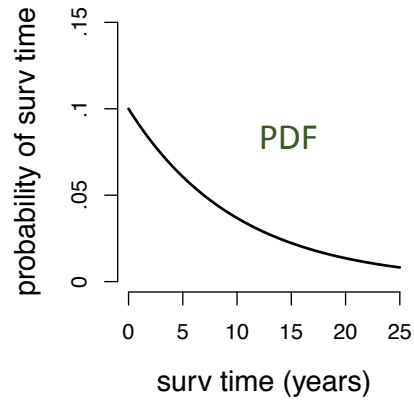
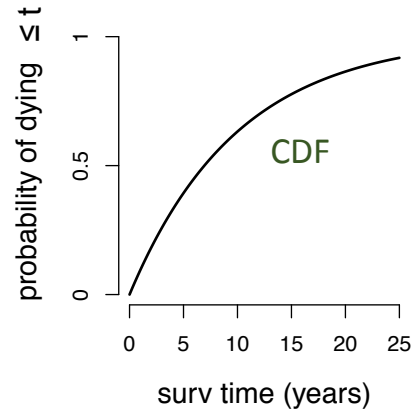Average rate is the same, distribution is different!

ICI3D

Exponential Survival Times

hazard of mortality:
deaths / (person*year)

probability of
dying AT year t

probability of
dying BY year t

probability of
surviving PAST year t
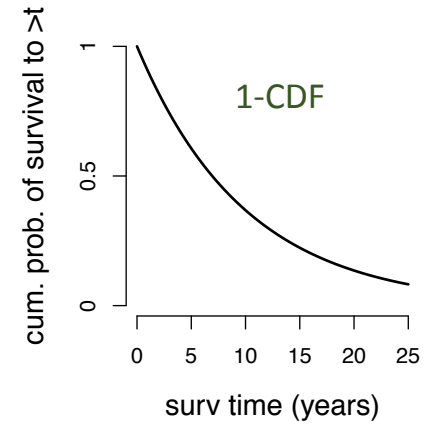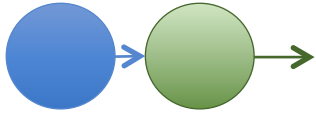
Exponential Survival Times

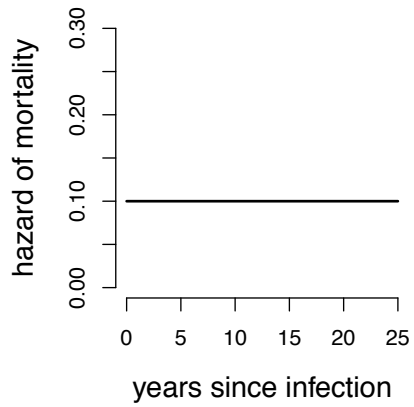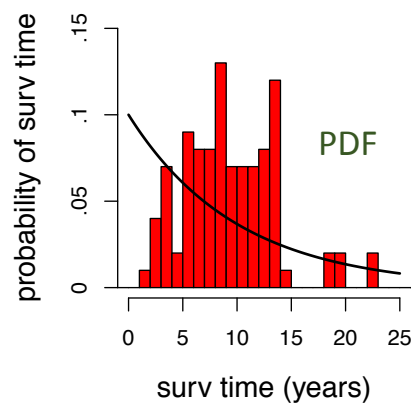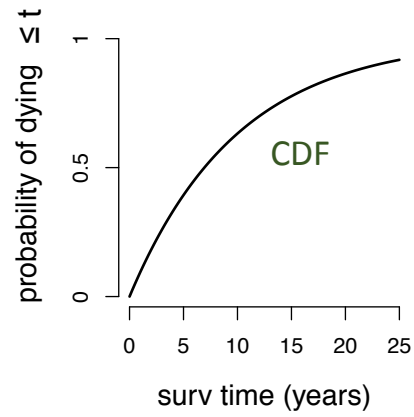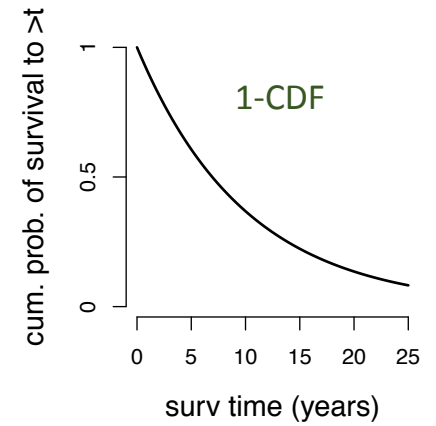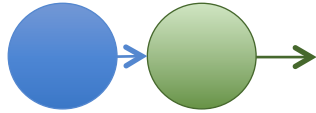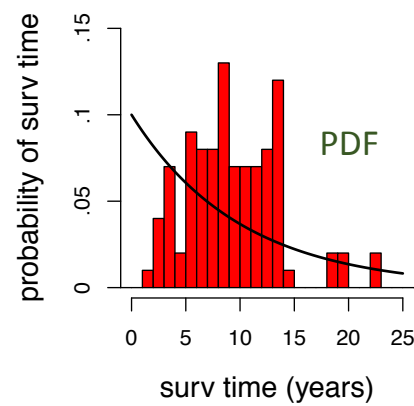|			
hazard of mortality: deaths / (person*year)	probability of dying AT year t	probability of dying BY year t	probability of surviving PAST year t

Exponential Survival Times

hazard of mortality:
deaths / (person*year)

probability of
dying AT year t

probability of
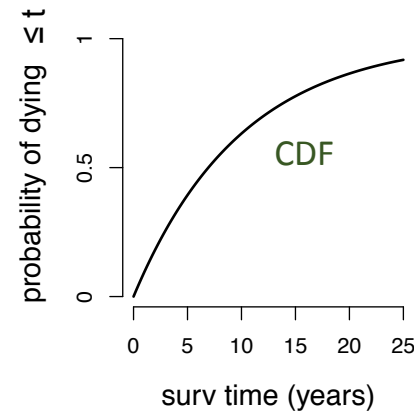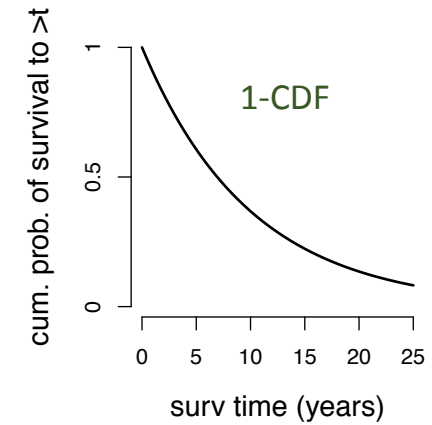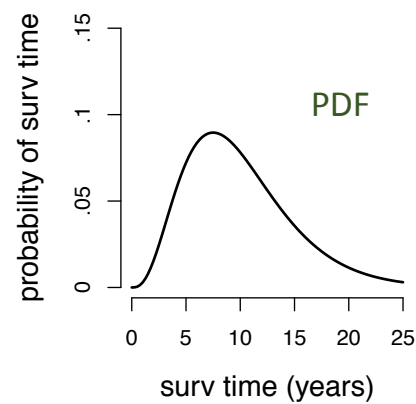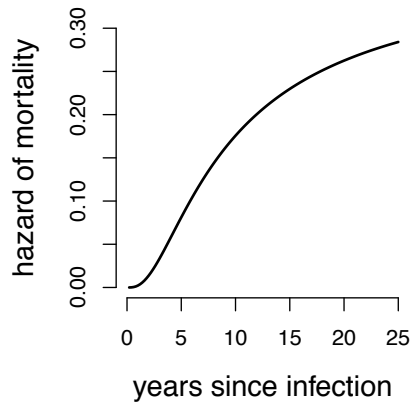dying BY year t
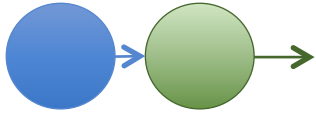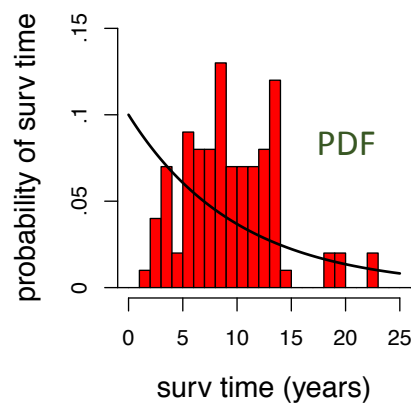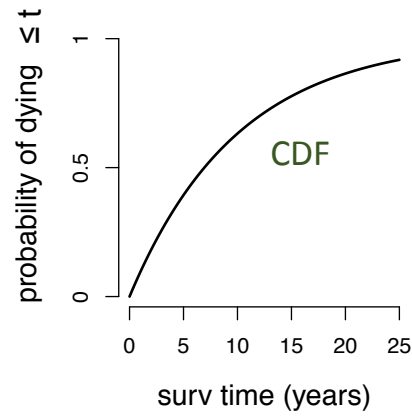
probability of
surviving PAST year t

Gamma Survival Times

Exponential Survival Times
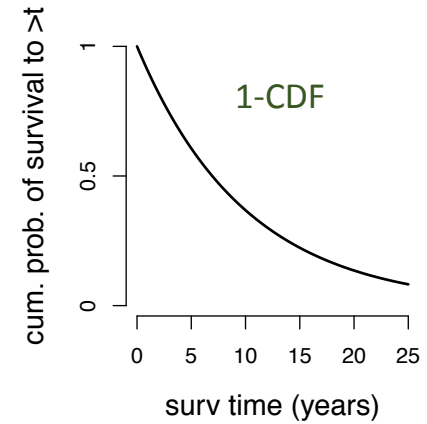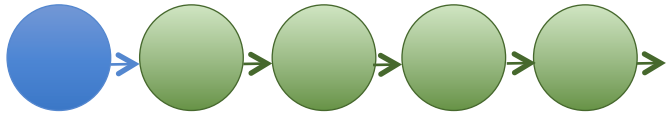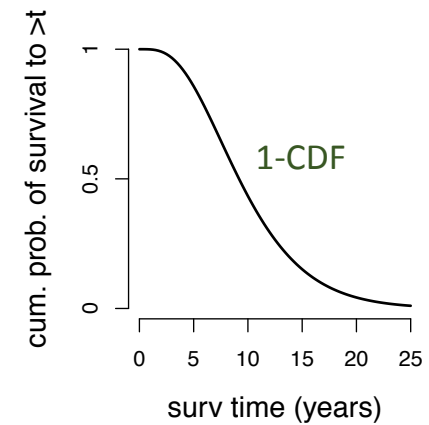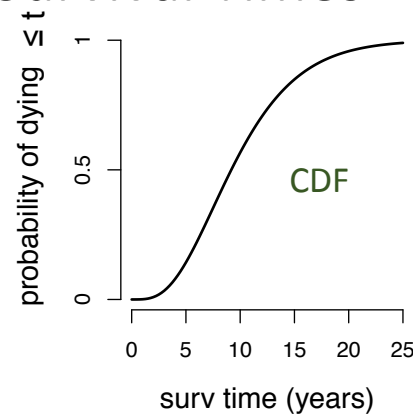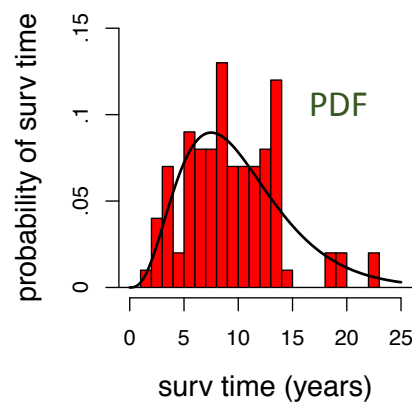
hazard of mortality — hazard of mortality: deaths / (person*year)

PDF — probability of **dying AT** year t

CDF — probability of **dying BY** year t

1-CDF — probability of **surviving PAST** year t

Gamma Survival Times

AIMS | African Institute for Mathematical Sciences SOUTH AFRICA

SACEMA | DST/NRF Centre of Excellence in Epidemiological Modelling and Analysis

UNIVERSITY OF GEORGIA
College of Public Health