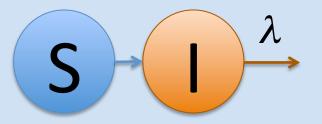
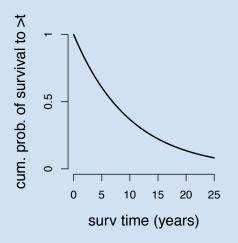
Justification of the Distributed Delay (Boxcar Model)

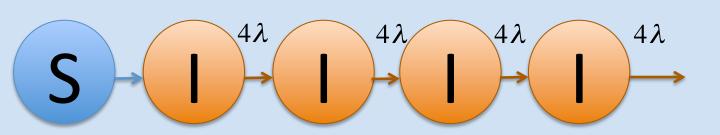
Exponential survival:

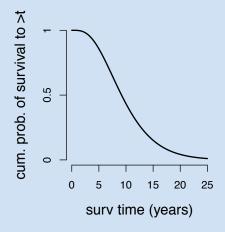


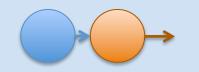


Gamma survival:

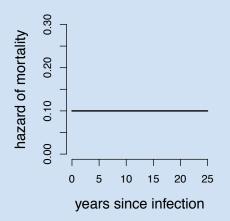
Average rate is the same, distribution is different!

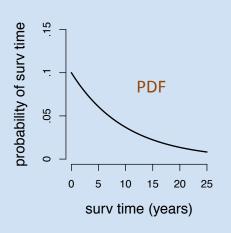


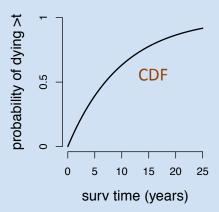


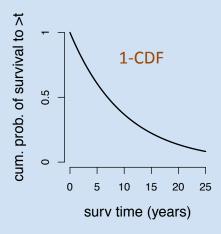


Exponential Survival Times









hazard of mortality: deaths / (person*year) probability of dying AT year t

probability of dying BY year t

probability of surviving PAST year t

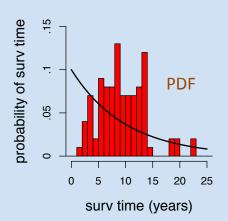


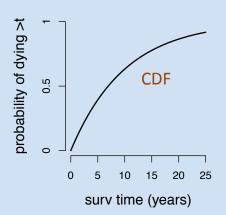
hazard of mortality

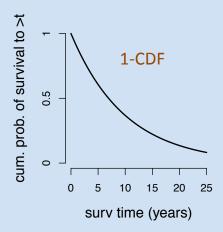
0.00

0.10 0.20 0.30

Exponential Survival Times







hazard of mortality: deaths / (person*year)

20

15

10

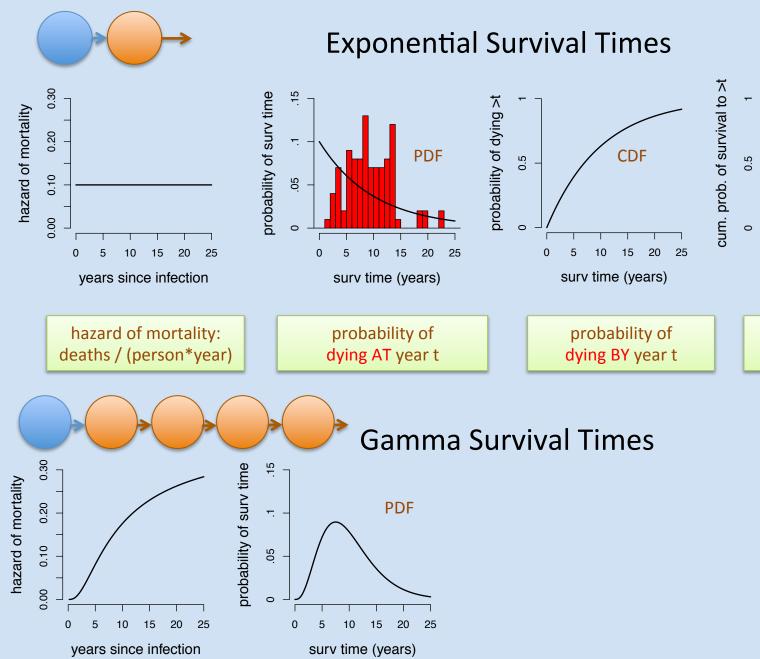
years since infection

25

probability of dying AT year t

probability of dying BY year t

probability of surviving PAST year t



1-CDF

15 20

surv time (years)

probability of surviving PAST year t

25

Exponential Survival Times cum. prob. of survival to >t probability of surv time probability of dying >t hazard of mortality 1-CDF **PDF CDF** 0.5 0.5 .05 0.00 0 25 20 25 10 15 20 25 20 10 surv time (years) years since infection surv time (years) surv time (years) hazard of mortality: probability of probability of probability of surviving PAST year t deaths / (person*year) dying AT year t dying BY year t **Gamma Survival Times** 0.30 probability of surv time probability of dying > hazard of mortality **PDF** 0.20 Τ. **CDF**

.05

5

10 15

surv time (years)

20

0.10

0.00

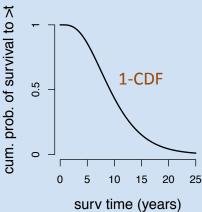
10

years since infection

15

20

25



20

15

5

10

surv time (years)

25

20



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