

- * Modeling and estimating generation intervals

1 Introduction

- * Introduction
- * How long is a disease generation?
- * Goals

2 Linking strength and speed

- * Speed
- * Ebola outbreak
- * Mexican flu
- * HIV in sub-Saharan Africa
- * Strength of epidemics
- * \mathcal{R} and control
- * \mathcal{R} and equilibrium

3 The link

- * Conditional effect of generation time
- * Generations and \mathcal{R}
- * Ebola outbreak
- * Mexican flu
- * HIV in sub-Saharan Africa
- * Linking framework

3.1 Renewal-equation models

- * Box models
- * Renewal equation
- * Infection kernel
- * Renewal equations

4 Estimating \mathcal{R}

- * Euler-Lotka equation
- * Euler-Lotka equation
- * Interpretation: generating functions

4.1 Effective generation times

- * Interpretation: “effective” generation times
- * Filtered means
- * Linking framework
- * Filtered means have intuitive properties
- * The filtering function

4.2 Moment approximations

- * Problems
- * Infectious times and waiting times
- * Infectious and waiting periods
- * Infectious and waiting periods
- * An approximation
- * Compound-interest interpretation
- * Moment approximation
- * Qualitative response
- * Fitting to Ebola
- * Approximating the distribution
- * Approximating the curve
- * Linking framework
- * Other diseases
- * Summary

5 Generation intervals through time

- * Generation intervals through time
- * Types of interval
- * Growing epidemics
- * Forward and backward intervals
- * Correcting
- * Theory and simulation
- * Conclusion

6 Conclusion

- * Spatial structure
- * Individual-level heterogeneity
- * Summary

7 Renewal math (extra)

- * Compartments vs. cohorts
- * Cohort approach
- * Another view of the model
- * Cohort approach
- * Cohort-based equation
- * Renewal equation