EpiDynamics 0.1: Dynamic Models in Epidemiology

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Models in epidemiology are important tools that help understand the complexity and evolution of disease spread. However, teaching these models might be troublesome since many students are not experienced in writing code and simulation techniques. The **EpiDynamics** package provides pre-built epidemiological models to help students understand the evolution of disease spread through *R* language. We collected and implemented models from well-known book written by Matt J. Keeling and Pejman Rohani [1], from basic to more complex models, e.g.:

- SIR model with births and deaths

- SIR model with disease induced mortality and density dependent transmission

- SIS model with n risk groups

- SEIR model with n age groups and yearly aging

- SIR model with partial immunity

- SIR model for mosquito vectors

- SIR model with sinusoidal forcing

References

[1] Keeling, M. J. and P. Rohani (2008). *Modeling infectious diseases in humans and animals*.