

Contents

Behavioral Epidemiology of Infectious Diseases: An Overview	1
Chris Bauch, Alberto d’Onofrio, and Piero Manfredi	
Part I Field Data on Behaviour	
Survey on the Likely Behavioural Changes of the General Public in Four European Countries During the 2009/2010 Pandemic	23
Caterina Rizzo, Massimo Fabiani, Richard Amlôt, Ian Hall, Thomas Finnie, G. James Rubin, Radu Cucuiu, Adriana Pistol, Florin Popovici, Rodica Popescu, Väinölä Joose, Kari Auranen, Steve Leach, Silvia Declich, and Andrea Pugliese	
Factors Influencing Infant and Adolescent Vaccine Uptake in Flanders, Belgium	43
H. Theeten, E. Lefevere, C. Vandermeulen, P. Van Damme, and N. Hens	
Part II Modeling Behaviour Change in Response to Epidemic Threats	
Modeling the Impact of Behavior Changes on the Spread of Pandemic Influenza	59
Sara Y. Del Valle, Susan M. Mniszewski, and James M. Hyman	
Uncoordinated Human Responses During Epidemic Outbreaks	79
Piero Poletti, Bruno Caprile, Marco Ajelli, and Stefano Merler	
The Talk of the Town: Modelling the Spread of Information and Changes in Behaviour	93
Sebastian Funk and Vincent A.A. Jansen	

Modeling Contact and Mobility Based Social Response to the Spreading of Infectious Diseases	103
Nicola Perra and Alessandro Vespignani	
Incorporating Human Behaviour in Epidemic Dynamics: A Modelling Perspective	125
Istvan Z. Kiss	
Risk Perception, Heuristics and Epidemic Spread	139
Pietro Liò, Bianchi Lucia, Viet-Anh Nguyen, and Stephan Kitchovitch	
The Mechanism and Phenomena of Adaptive Human Behavior During an Epidemic and the Role of Information	153
Eli P. Fenichel and Xiaoxia Wang	
Part III Modeling Vaccinating Behaviour	
The Economic Approach to Modeling Self-protective Behavior in Epidemiology	171
Frederick Chen	
Mathematical Epidemiology and Welfare Economics	185
Mark Gersovitz	
Modeling Influenza Vaccination Behavior via Inductive Reasoning Games	203
Raffaele Vardavas and Christopher Steven Marcum	
Modeling Voluntary Influenza Vaccination Using an Age-Structured Inductive Reasoning Game	229
Romulus Breban	
Emergent Dynamical Features in Behaviour-Incidence Models of Vaccinating Decisions	243
Samit Bhattacharyya and Chris T. Bauch	
Impact of Vaccine Behavior on the Resurgence of Measles	255
Eunha Shim, John J. Grefenstette, Steven M. Albert, Brigid E. Cakouros, Larissa Bohn, and Donald S. Burke	
Vaccinating Behaviour and the Dynamics of Vaccine Preventable Infections	267
Alberto d'Onofrio, Piero Manfredi, and Ernesto Salinelli	
The Geometric Approach to Global Stability in Behavioral Epidemiology	289
Bruno Buonomo, Alberto d'Onofrio, and Deborah Lacitignola	

Part IV Concluding Overview

**Capturing Human Behaviour: Is It Possible to Bridge the Gap
Between Data and Models? 311**
W. John Edmunds, Ken Eames, and Marcus Keogh-Brown

Index 323