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Altri autori (Persone)	BrowneWilliam J <1972-> (William John) Vidal RodeiroCarmen L
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Nota di bibliografia	Includes bibliographical references (p. 267-273) and index.
Nota di contenuto	Disease Mapping with WinBUGS and MLwiN; Contents; Preface; Notation; 0.1 Standard notation for multilevel modelling; 0.2 Spatial multiple-membership models and the MMMC notation; 0.3 Standard notation for WinBUGS models; 1 Disease mapping basics; 1.1 Disease mapping and map reconstruction; 1.2 Disease map restoration; 2 Bayesian hierarchical modelling; 2.1 Likelihood and posterior distributions; 2.2 Hierarchical models; 2.3 Posterior inference; 2.4 Markov chain Monte Carlo methods; 2.5 Metropolis and Metropolis-Hastings algorithms; 2.6 Residuals and goodness of fit; 3 Multilevel modelling 3.1 Continuous response models3.2 Estimation procedures for

multilevel models; 3.3 Poisson response models; 3.4 Incorporating spatial information; 3.5 Discussion; 4 WinBUGS basics; 4.1 About WinBUGS; 4.2 Start using WinBUGS; 4.3 Specification of the model; 4.4 Model fitting; 4.5 Scripts; 4.6 Checking convergence; 4.7 Spatial modelling: GeoBUGS; 4.8 Conclusions; 5 MLwiN basics; 5.1 About MLwiN; 5.2 Getting started; 5.3 Fitting statistical models; 5.4 MCMC estimation in MLwiN; 5.5 Spatial modelling; 5.6 Conclusions; 6 Relative risk estimation; 6.1 Relative risk estimation using WinBUGS
6.2 Spatial prediction6.3 An analysis of the Ohio dataset using MLwiN; 7 Focused clustering: the analysis of putative health hazards; 7.1 Introduction; 7.2 Study design; 7.3 Problems of inference; 7.4 Modelling the hazard exposure risk; 7.5 Models for count data; 7.6 Bayesian models; 7.7 Focused clustering in WinBUGS; 7.8 Focused clustering in MLwiN; 8 Ecological analysis; 8.1 Introduction; 8.2 Statistical models; 8.3 WinBUGS analyses of ecological datasets; 8.4 MLwiN analyses of ecological datasets; 9 Spatially-correlated survival analysis; 9.1 Survival analysis in WinBUGS
9.2 Survival analysis in MLwiN10 Epilogue; Appendix 1: WinBUGS code for focused clustering models; A.1 Falkirk example; A.2 Ohio example; Appendix 2: S-Plus function for conversion to GeoBUGS format; Bibliography; Index

Sommario/riassunto

Disease mapping involves the analysis of geo-referenced disease incidence data and has many applications, for example within resource allocation, cluster alarm analysis, and ecological studies. There is a real need amongst public health workers for simpler and more efficient tools for the analysis of geo-referenced disease incidence data. Bayesian and multilevel methods provide the required efficiency, and with the emergence of software packages - such as WinBUGS and MLwiN - are now easy to implement in practice.Provides an introduction to Bayesian and multilevel modelling in disease m