STATISTICAL MODELLING *in* MEDICAL *and* ECONOMIC DATA

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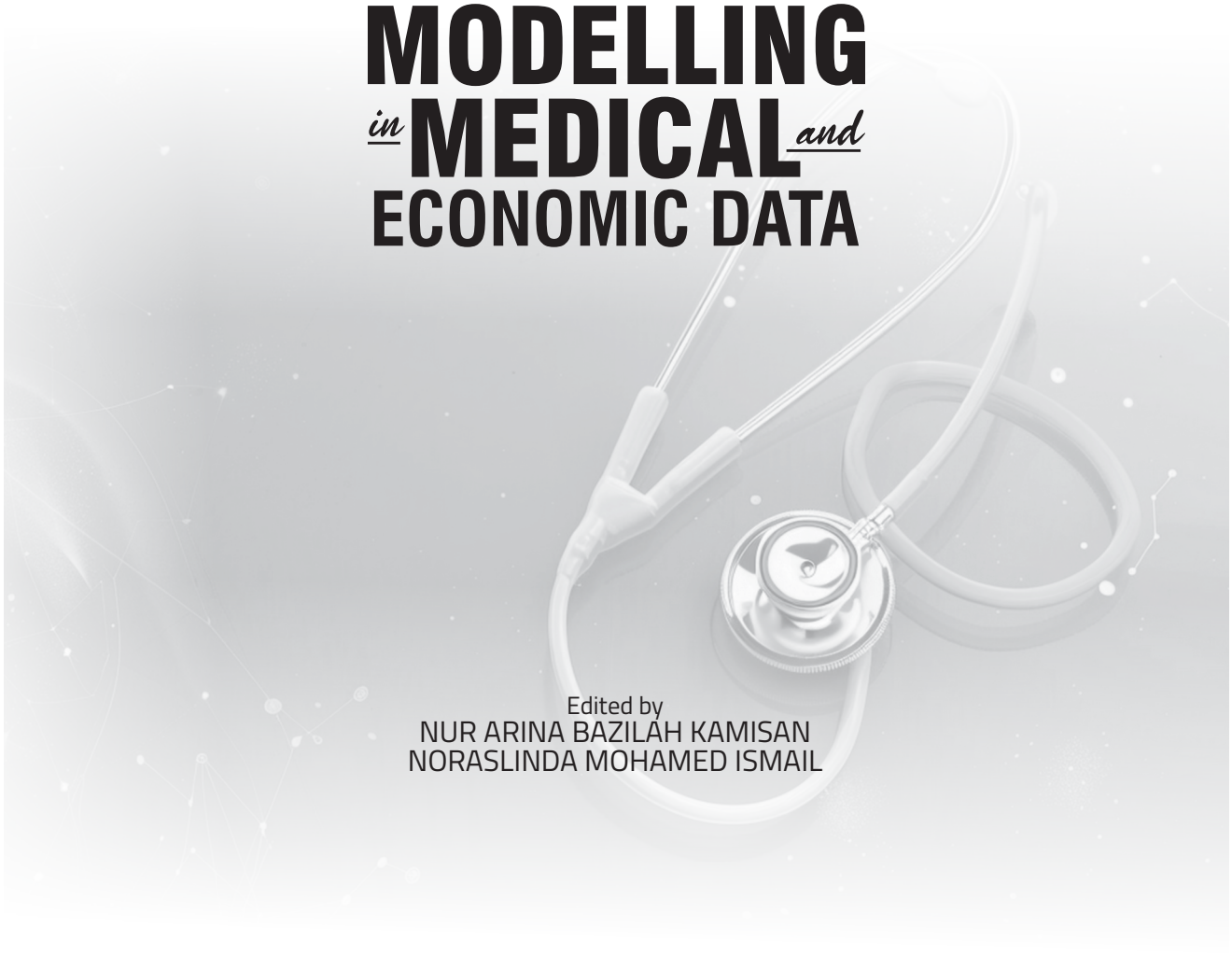

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PREFACE

A mathematical model identified as a statistical model explains how one or more random variables relate to other non-random variables. In data science, statistical modelling is the process of using statistical analysis on datasets. By providing logical representations that help data scientists find connections between variables and make predictions, the application of statistical modelling to raw data enables them to approach data analysis strategically. Data analysis is the procedure of analysing raw datasets for patterns, conclusions, and improvement possibilities.

Health data is any information about an individual's or population's health issues, reproductive results, causes of mortality, and quality of life. Clinical measures, as well as environmental, socioeconomic, and behavioural information, are part of health data. When people interact with healthcare systems, a variety of health data is collected and used. This data, often gathered by health care providers, contains a record of services received, the circumstances of those services, and clinical outcomes or information about those services. Historically, many health data have come from this approach.

Health data analysis makes use of both current and historical data to deliver spatial and temporal insights that help health providers and patients make decisions. It could improve patient care, faster and more accurate diagnosis, preventative interventions, more personalised treatment, and better decision-making are all possible with the application of health data analytics. It may save money, streamline internal operations, and perform other things at the corporate level. By implementing a healthcare analytics package, healthcare providers can use data to gain insights into a variety of operational areas.

Economic data are statistics that describe a real economy, either in the past or in the present. These are frequently found in cross-sectional data over a single period, or in time-series data spanning many time periods. Furthermore, data can be obtained through surveys of individuals and businesses, or it can be grouped into sectors and industries of a particular economy or the global economy. A data set is a table-based aggregation of such data.

Economic analysis is the study of economic systems. It might also involve researching an industry or a method of production. The goal of the analysis is to determine how well the economy, or some aspect of it, performs. Economic analysis is described by economists as a methodical approach to choosing how to use limited resources most effectively.

In this book, the applications of statistical modelling will be employed with medical and economic data. Readers will get concepts and exposure on how to apply statistical modelling to medical and economic data. In every chapter, a study case will be discussed to show the employment of the statistical models with related data.

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