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Nota di contenuto	Cover; Title Page; Copyright Page; Preface; Contents; PART 1. SURVIVAL MEASUREMENTS AND CONCEPTS; 1. SURVIVAL DATA; 1.1 Scope of the Book; 1.2 Sources of Data; 1.3 Types of Variables; 1.4 Exposure to Risk; 1.5 Use of Probability Theory; 1.6 The Collection of Survival Data; 2. MEASURES OF MORTALITY AND MORBIDITY. RATIOS, PROPORTIONS, AND MEANS; 2.1 Introduction; 2.2 Ratios and Proportions; 2.2.1 Ratios; 2.2.2 Proportion; 2.3 Rates of Continuous Processes; 2.3.1 Absolute Rate; 2.3.2 Relative Rate; 2.3.3 Average (Central) Rate; 2.4 Rates for Repetitive Events; 2.5 Crude Birth Rate 2.6 Mortality Measures Used in Vital Statistics 2.6.1 The Concept of Population Exposed to Risk; 2.6.2 Crude Death Rate; 2.6.3 Age Specific Death Rates; 2.6.4 Cause Specific Mortality Used in Vital Statistics; 2.7 Relationships Between Crude and Age Specific Rates; 2.8 Standardized Mortality Ratio (SMR): Indirect Standardization; 2.9 Direct Standardization; 2.10 Evaluation of Person-Years of Exposed to Risk in Long-Term Studies; 2.10.1 'Exact' Dates for Each Individual Available; 2.10.2 Only Years of Birth, Entry, and Departure Available; 2.11

Prevalence and Incidence of a Disease

2.11.1 Prevalence 2.11.2 Incidence; 2.12 Association Between Disease and Risk Factor. Relative Risk and Odds Ratio; 2.12.1 Relative Risk;

2.12.2 Odds Ratio; 3. SURVIVAL DISTRIBUTIONS; 3.1 Introduction; 3.2 Survival Distribution Functions; 3.3 Hazard Function (Force of Mortality); 3.4 Conditional Probabilities of Death (Failure) and Central Rate; 3.5 Truncated Distributions; 3.6 Expectation and Variance of Future Lifetime; 3.7 Median of Future Lifetime; 3.8 Transformations of Random Variables; 3.9 Location-Scale Families of Distributions; 3.10 Some Survival Distributions

3.11 Some Models of Failure 3.11.1 Series System; 3.11.2 Parallel

System; 3.12 Probability Integral Transformation; 3.13 Compound Distributions; 3.14 Miscellanea; 3.14.1 Interpolation; 3.14.2 Method of Statistical Differentials; 3.15 Maximum Likelihood Estimation and Likelihood Ratio Tests; 3.15.1 Construction of Likelihood Functions;

3.15.2 Maximum Likelihood Estimation; 3.15.3 Expected Values, Variances and Covariances of the MLE's; 3.15.4 Assessing Goodness of Fit; PART 2. MORTALITY EXPERIENCES AND LIFE TABLES; 4. LIFE TABLES:

FUNDAMENTALS AND CONSTRUCTION; 4.1 Introduction

4.2 Life Table: Basic Definition and Notation 4.3 Force of Mortality.

Mathematical Relationships Among Basic Life Table Functions; 4.4

Central Death Rate; 4.5 Interpolation for Life Table Functions; 4.6 Some

Approximate Relationships Between nq_x and nm_x ; 4.6.1 Expected

Fraction of the Last n Years of Life; 4.6.2 Special Cases; 4.6.3

Exponential Approximation; 4.7 Some Approximations to x ; 4.8

Concepts of Stationary and Stable Populations; 4.8.1 Stationary

Population; 4.8.2 Stable Population; 4.9 Construction of an Abridged

Life Table from Mortality Experience of a Current Population

4.9.1 Evaluation of nM_x

Sommario/riassunto

Survival analysis deals with the distribution of life times, essentially the times from an initiating event such as birth or the start of a job to some terminal event such as death or pension. This book, originally published in 1980, surveys and analyzes methods that use survival measurements and concepts, and helps readers apply the appropriate method for a given situation. Four broad sections cover introductions to data, univariate survival function, multiple-failure data, and advanced topics.
